



Advancing Social Justice Through Curriculum Realignment:

**Centering Scholarly
Communication in
LIS Curricula**

**Andiswa Mfengu & Reggie Raju
Editors**

ADVANCING SOCIAL JUSTICE THROUGH CURRICULUM REALIGNMENT: CENTERING SCHOLARLY COMMUNICATION IN LIS CURRICULA

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Editors: Andiswa Mfengu & Reggie Raju

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Foreword

Tuum Est, Latin for “It is yours” or “It is up to you”. I harken back to the motto of my alma mater, the University of British Columbia (Canada), as I think about the thought-provoking and generative gathering that resulted in this book. The conference “Advancing Social Justice Through Curriculum Realignment: Centering Scholarly Communication in LIS Curricula”, convened as part of the [2nd Global Summit on Diamond Open Access](#), not only brought together interdisciplinary experts and stakeholders from around the globe, but has yielded this multilingual collection of essays. The Global South and Global North voices contained in this book infused the dialogue at the conference at the University of Cape Town (UCT), 8-9 December 2025, which is now in your hands, to center scholarly communication in the library and information science (LIS) curriculum as a social justice project. This book addresses the need for a foundational text in scholarly communication to anchor and realign LIS education. The necessary realignment will ensure that future LIS professionals are prepared to advance social justice-driven scholarly communication from day one on the job, rather than learn on the job how to engage and counter power structures to facilitate unfettered publishing and access to knowledge.

This compelling book is a result of intentional leadership and advocacy by the conference and summit organisers to put into effect the four elements that constitute the Toluca-Cape Town Declaration on Diamond OA and are foundational to advancing diamond OA. This framework was adhered to at the conference and in this book in the corresponding manner:

1. Sharing knowledge is a human right – this book is open access, freely accessible to those who have the technology to download and access the publication, allowing the knowledge to be available to all. The introduction by open access advocate, scholar and Chair of the International Oversight Summit Committee, Reggie Raju, makes this case in point.
2. It is community-owned, community-led, and non-commercial – this book has adopted a Creative Commons Attribution 4.0 International licence that allows the knowledge to be shared (copy and redistribute in any medium or format for any purpose) and adapted (remix, transform, and build upon the material for any purpose).
3. Social justice, equity, and inclusivity are fundamental to enabling decolonisation and demarginalization – the book’s content aims to advance social justice through LIS education, with an emphasis on scholarly communication, as a recognised gap in the curriculum.

Two essays set the context: “Social justice in scholarly communication and decolonised education: implications for a realignment of LIS curriculum” (in seTswana: *Tlhaeletsano ya borutegi ya tshiamiso ya loago le thuto e e sa tlholeng e le ya bokoloniale: ditlamorago mo thulaganyong ya go ithuta ya LIS*), by Kgomotso H. Moahi (LIS Professor and Vice Chancellor, Open University of Botswana), and “A hermeneutical consideration of what knowledge is produced before how it is shared”, by Jaya Raju (Professor of LIS education and Deputy Dean, Faculty of Humanities, UCT). These are followed by essays on Scholarly communication, decolonisation and LIS education (Section B) and Scholarly communication and social justice within an LIS disciplinary framework (Section C).

4. There is regional and linguistic diversity in scholarly communication – This is substantiated by the inclusion of authors, such as Lorraine J. Haricombe (Vice Provost and Director of Libraries, University of Texas at Austin) from North America writing on “Scholarly communication as a tool for furthering social justice”, Archie Dick (Emeritus Professor of Information Science, University of Pretoria) from South Africa writing on “Investigating, writing and teaching social justice themes in library and information studies”, Spencer Lilley (Associate Professor, Victoria University of Wellington) from Aotearoa (New Zealand) writing on “Indigeneity and its contribution to creating a stronger DEI future in the library and information sector”, and Michelli Pereira da Costa (Professor, Universidade de Brasilia) from Brazil, writing in English and Portuguese on “Reflections on open science and the teaching of library and information science: a perspective from Brazil” (in Portuguese: *Reflexões sobre ciência aberta e o ensino da Biblioteconomia e ciência da informação, um olhar a partir do Brasil*).

Research assessment is the fifth element that completes the framework that centers scholarly communication from a social justice perspective to realign the LIS curriculum. Thus, the last section (Section E) of the book addresses Scholarly communication and research impact, and includes an essay by Andiswa Mfengu (Senior Lecturer and Head, Department of Knowledge and Information Stewardship, UCT) on “Equitable research assessment driving research impact in the global South: a perspective from South Africa”. The authors are leading national and/or international experts who are advancing an equitable and inclusive publishing ecosystem through their research and/or practice.

The 19 curated conference essays are published herein for educators, scholars, students, publishers, LIS professionals and other stakeholders so we have a theoretical and real-world understanding of scholarly communication from across the globe to drive systemic change by re-imagining our roles in the scholarly communication cycle. For the LIS education community and stakeholders, we have passed the knowledge to challenge our thinking and practice of what and how we teach for LIS practitioners to individually and collectively advocate for decolonized and inclusive knowledge production and sharing. *Tuum Est.*

Prof. Clara M. Chu

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Preface

This collection of essays is drawn from the rich discourse which took place during a Library and Information Science (LIS) education segment of the [2nd Global Summit on Diamond Open Access](#) held at the University of Cape Town, South Africa. This scholarly conference was hosted by the University's Department of Knowledge and Information Stewardship (DKIS) with the theme *Advancing Social Justice Through Curriculum Realignment: Centering Scholarly Communication in LIS Curricula*. While the broader summit explored the systemic challenges of scholarly publishing, this focused forum brought together LIS educators, practitioners, and students to engage in one of the core goals of the summit, that is, developing capacity through centering scholarly communication in LIS curricula. This goal emphasises the need to reimagine LIS education to prepare professionals who can lead, sustain and transform scholarly communication in the years to come.

Scholarly communication itself is no longer a specialist niche within professional academic library practice; it is now a core service demanding both critical engagement and practical expertise. Scholarly communication is viewed as a transformative vehicle for equitable access, knowledge democratisation and inclusive participation in global knowledge systems. As the scholarly landscape continues to make this transformation, LIS curricula must evolve to reflect these priorities. This includes integrating topics such as open science, multilingualism, research assessment, open infrastructure and the political economy of knowledge production.

LIS education is being outpaced by the momentum in professional practice, hence the urgent need to reimagine curricula to bridge the curricula-practice divide in preparing future professionals to address the evolving demands of access, equity and impact. This collection of essays has been compiled to address the urgency to capacitate the next generation of scholarly communication librarians. These professionals will be at the forefront of supporting researchers, shaping publishing policy, managing repositories and publishing platforms, and advocating for inclusive, community-led knowledge systems. LIS programmes need to prioritise the responsibility of equipping graduates with the competencies to fulfil these roles, grounded not only in technical skills but in a deep understanding of the ethical, cultural, and political dimensions of scholarly communication.

A core strand in the reimagining of the curricula is the inclusion of Indigenous Knowledge Systems and other historically marginalised ways of knowing. Hence, the growing emphasis on an equitable scholarly communication ecosystem built on examining the epistemic injustices embedded in mainstream knowledge production.

LIS education, therefore, must create space for these knowledge traditions, ensuring that future professionals are prepared to work with and advocate for diverse epistemologies within scholarly systems.

This collection of essays represents a cross-section of regional experiences, pedagogical innovations, and strategic frameworks that are shaping the conversation on LIS education and scholarly communication. Together, they contribute to the formation of a global community of LIS educators committed to transformative change. This emerging network is focused on building capacity, fostering collaboration, and ensuring that LIS graduates, especially those from the Global South, are equipped to participate in and lead the future of scholarly communication.

This collection of essays is collated into five thematic clusters. The first cluster offers a high-level discourse connecting scholarly communication, social justice and LIS curriculum realignment within a decolonial and transformative framework. The second cluster, *Scholarly communication, decolonisation and LIS education*, explores the intersection between scholarly communication and decolonisation from diverse regional and social perspectives, and implications for LIS education. The cluster, *Scholarly communication and social justice within an LIS disciplinary framework* grounds scholarly communication in the LIS disciplinary context, particularly in relation to indigenous communities and knowledge systems. Clusters four and five explore *Scholarly communication and LIS curriculum realignment* and *Scholarly communication and research impact*, respectively.

This compilation of 19 essays by 23 authors demonstrates the intent by the editors to be as inclusive as possible, drawing views from across Africa, Latin America, Europe, North America and Australasia. The contributors reflect a diverse range of professional and scholarly experiences, offering regionally grounded and globally relevant insights into the future of scholarly communication in LIS education. A further point of inclusion is multilingual engagements captured in this collection of essays. It has been written in English, Spanish, Portuguese and SeTswana, a departure from mainstream English medium only. Moreover, to accommodate Englishes of the world, the essays adopt variations in the English language and style.

To ensure academic rigour, each essay underwent a double-blind peer review process, which was independently coordinated by the publisher, UCT Libraries Press. The editors were totally responsible for overseeing the content and academic components of the review process, ensuring that the recommendations of the peer reviewers were justified and thoroughly addressed. When necessary, they mediated interventions to align the content with scholarly standards.

In parallel, the publisher took charge of the technical management of the peer review process, overseeing logistics and maintaining the integrity of the process. Furthermore, the collection of essays as a whole was reviewed by an experienced editor and reviewer, whose expertise ensured the overall coherence, integrity, and academic rigour of the work.

This collection of essays makes the case that scholarly communication is no longer peripheral; it is central to the mission of academic libraries and must be positioned accordingly in LIS education. As the field shifts from 'just-in-case' ownership models to 'just-in-time' knowledge production paradigms, LIS education must evolve - and it must do so with social justice at its core.

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The 23 authors who contributed to this collection are acknowledged for their rich and diverse scholarly contributions, which bring different regional perspectives, making this publication a truly global scholarly output.

Ageographically diverse review panel of disciplinary experts contributed to quality assurance of the collection of essays - the review panel was made up of: Professor Christine Stilwell (South Africa); Professor Saray Córdoba González (Costa Rica); Associate Professor Maned Mhlongo (South Africa); Associate Professor Mabel K. Majanja (Kenya); Dr Néstor Daniel Martínez-Domínguez (Mexico); and, the overall publication reviewer, Professor Dietmar Wolfram (United States of America).

UCT Libraries and its 2nd Global Summit for Diamond Open Access Local Organising Committee were integral to the organisation of the two-day conference. Acknowledgements are also extended to the sponsors and partners of the Global Summit; the publisher of this open access publication, UCT Libraries Press; and, DKIS staff and students.

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Introduction

Emerging Perspectives in Scholarly Communication for LIS Curricula

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Abstract

This introductory essay explores the transformative potential of integrating scholarly communication into Library and Information Science (LIS) education as a means to advance social justice. Despite its growing relevance in academic librarianship, scholarly communication remains underrepresented in LIS curricula, creating a disconnect between education and practice. There is a call for fundamental realignment in preparing future professionals to engage critically with inequities in knowledge production and dissemination. Framed by the Toluca-Cape Town Declaration on Diamond Open Access (OA), the essay positions Diamond OA as a socially just, non-commercial, and inclusive publishing model capable of dismantling colonial knowledge structures and promoting epistemic diversity. It highlights the strategic convergence of Diamond OA, scholarly communication, and collection development as a transformative shift—moving from resource acquisition to curating open, diverse, and sustainable collections. It is proposed that collection development will, in time, be a subset of scholarly communication. The essay underscores the central role of academic libraries and LIS professionals in fostering equitable scholarly ecosystems. It advocates for embedding scholarly communication across the research lifecycle and LIS curricula to equip graduates with the skills to support open science, manage digital repositories, and promote inclusive publishing practices. Ultimately, it lays the groundwork for reimagining LIS education as a driver of equity, inclusion, and decolonization in global scholarly communication.

Keywords: scholarly communication, LIS education, diamond open access, collection development, decolonization

Introduction

In recent years, the discourse around social justice within academic librarianship has intensified, calling for a critical re-evaluation of the values, practices, and systems that underpin the profession. A key area of discussion centres on the pivotal role of scholarly communication in promoting equitable access to knowledge and fostering

inclusive participation within the global information ecosystem. This is done through ensuring that research outputs are universally accessible, and that diverse voices and perspectives are effectively represented and integrated into the scholarly discourse.

However, it is asserted that the commitment levels of Library and Information Science (LIS) educators to mainstreaming social justice-driven scholarly communication have not been as strong as those in practice. *Advancing Social Justice Through Curriculum Realignment: Centering Scholarly Communication in LIS Curricula*, an output of the Second Global Summit on Diamond Open Access (OA), explores the transformative potential of reimagining LIS education to address pressing issues of inequity, marginalization, and exclusion. The purpose of this publication and a core goal of the 2nd Global Summit is to capture engagements that centre scholarly communication in LIS education curricula. The publication contributes to a future where LIS professionals are not only stewards of information but also active participants in shaping the scholarly communication landscape, ensuring that research remains accessible, ethical, and impactful. By emphasizing the integration of scholarly communication as a core component of LIS curricula, the book seeks to demonstrate how this shift can more closely align education with practice, enabling future professionals to critically and effectively engage with the power structures that shape access to knowledge. Further, this integration will contribute significantly to the transition to Diamond OA, an imperative for fostering an inclusive and equitable publishing ecosystem.

The Second Global Summit on Diamond OA is recognized as a pivotal milestone in the ongoing global efforts to reshape the scholarly communication landscape. The Toluca-Cape Town Declaration on Diamond OA encapsulates the critical elements foundational to Diamond OA, namely:

- Sharing knowledge is a human right.
- It is community-owned, community-led, and non-commercial.
- Social justice, equity, and inclusivity are fundamental to enabling decolonization and demarginalization.
- There is regional and linguistic diversity in scholarly communication.

These four elements, along with a relevant system for research assessment, serve as a framework for a rejuvenated, reimagined, and relevant scholarly communication paradigm. The discourse in this book is aligned with the critical elements of the Declaration, bridging the theory-practice divide.

Using this framework, this introductory essay explores the key principles of scholarly communication, analysing the systems, norms, and epistemologies that shape how knowledge is validated, disseminated, and accessed.

The author of the essay argues that considerable attention should be paid to examining the intersection of scholarly communication and collection development practices, an area that, it would seem, LIS educators have yet to fully address. It is undeniable that the transition in collection development from ownership to access provides libraries with opportunities to enhance accessibility, flexibility, and resource availability. The essay argues that, in the future, collection development will be subsumed into scholarly communication, as the 'just-in-time' principle will gain greater relevance compared to the traditional 'just-in-case' approach. Hixson, as cited in Myers (2016), asserts that scholarly communication has always been a priority for libraries, given that the core mission of academic libraries has historically focused on purchasing collections of published works and leasing databases. However, considering the current trajectory of scholarly communication, there is now deeper and broader support for the research lifecycle, addressing challenges of sustainability, equity, and preservation in the digital age.

This essay provides the foundational context for the book, outlining its key themes and objectives. It delves into the core concepts of scholarly communication, social justice, and Diamond OA, offering an exploration of their definitions and interconnections. Scholarly communication and social justice form the vital strands that underpin this book, offering insights into exploring their intersection and impact on equity and inclusivity. The essay also highlights how these concepts shape equitable practices in knowledge production and dissemination. The role of educators in this milieu will also be discussed, emphasizing how a reimagined scholarly communication process will enhance the curriculum and the impact on LIS practice.

Contextualization of the book

Advancing Social Justice Through Curriculum Realignment: Centering Scholarly Communication in LIS Curricula is a collection of essays offering an in-depth exploration of how LIS programs can realign their curricula to better reflect social justice goals through the integration of scholarly communication. Drawing on the work of educators, researchers, and practitioners, this book provides both theoretical perspectives and practical insights for implementing curriculum changes that prioritize equity, accessibility, and knowledge democratization.

The book is compiled to provide a comprehensive discourse of the challenges and opportunities associated with curriculum realignment in LIS education.

The essays primarily address key issues such as:

- Scholarly communication in promoting social justice - the role of scholarly communication in promoting social justice—exploring how this critical area can help address structural inequities in knowledge production and access.
- Curriculum realignment in LIS education - why there is a need for curriculum realignment in LIS education—examining current shortcomings in LIS curricula and their broader implications for the profession and society.
- Linguistic and cultural diversity—promoting balanced multilingualism and indigenizing the curricula for the inclusion of marginalized knowledge systems.
- Alternative models in scholarly communication—incorporating scholarly communication into LIS curricula also allows for the exploration of alternative models

Each essay presents unique insights from contributors who are at the forefront of LIS education reform. Together, these perspectives underscore the importance of moving beyond traditional LIS instruction and embracing a curriculum that prepares students to address the social and ethical challenges they will face as information professionals. By focusing on scholarly communication, this book aims to offer a roadmap for re-envisioning LIS education as a vehicle for social change.

This introductory essay is written from the perspective of a practising librarian and emphasizes the importance of reimagining a core aspect of academic librarianship, that is, scholarly communication within a social justice paradigm. Given the anticipated growth trajectory of scholarly communication, social justice must be at the epicentre, with an emphasis on decolonizing the fundamental pillars of scholarly communication to foster an inclusive and equitable knowledge-sharing ecosystem. Hence, as already indicated, the significance lies in defining social justice through an open-access lens and exploring the decolonization of scholarly communication. Before examining social justice and its role in shaping scholarly communication within a decolonized paradigm, it is important to define the concept of scholarly communication.

Scholarly communication

The Association of College and Research Libraries (2003) defines scholarly communication as an all-encompassing system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use. This system includes both formal means of communication, such as publication in peer-reviewed journals, and informal channels, such as electronic listservs.

Myers (2016) posits that ‘there is no one common definition of scholarly communication’. However, the essay author contests this posit and holds the view that there are core elements that converge to provide a clear definition of scholarly communication. However, depending on the context, different elements of the concept are knitted together for relevance and value, and it is this that gives a framework for a varied definition of scholarly communication. This contextual flexibility provides a framework that accommodates diverse interpretations while maintaining the integrity of the concept.

Klain-Gabbay and Shoham (2016) assert that scientific publications play a central role in systematically documenting research findings and facilitating the exchange of information between and among researchers. Publishing research outcomes is a key aspect of scholarly communication, and technological advancements have significantly transformed how these outcomes are produced and shared.

Brantley, Bruns, and Duffin (2017) further emphasize the growing importance of scholarly communication as a central library service that requires clear understanding and professional expertise. The essay author supports this perspective, affirming that for such a critical service to function effectively, it must be underpinned by a clear and coherent definition.

Social justice

Matthew Robinson (Caravelis & Robinson, 2015) defines social justice as the promotion of a just society by actively challenging injustice. He emphasizes that social justice advocates for the fair allocation of resources within a community, ensuring that no one is discriminated against or constrained in their welfare or well-being. At its core, social justice is closely associated with the principle of equality, striving for equal opportunity in all facets of society.

John Rawls (1958) contributes to this discourse by asserting that social justice requires the protection of equal access to basic liberties, rights, and opportunities. Additionally, Rawls underscores the importance of prioritizing the needs of society’s least advantaged members, ensuring that their well-being is not only considered but actively safeguarded. This perspective highlights the dual focus of social justice: promoting fairness while addressing systemic disadvantages.

David Miller (2003) expands on this idea, emphasizing the role of social institutions in the distribution of resources. He highlights education as a pivotal resource that must be equitably accessible to all citizens. Miller’s analysis broadens the scope of social justice, linking it to institutional responsibilities and the mechanisms by which societies allocate their resources. Robinson, Rawls, and Miller all define social justice as advancing fairness and equality.

Robinson advocates for challenging injustice and fair resource distribution, while Rawls stresses protecting basic rights and prioritizing the disadvantaged. Miller links justice to institutional responsibility, especially in education. Together, they emphasize fairness, equality, and the well-being of the least advantaged.

The concept of social justice is inherently multifaceted and complex. Drawing from the aforementioned authors and for the purposes of this essay, it is argued that social justice is about fairness and equity in dismantling barriers that perpetuate inequalities and unfair practices. This foundational principle is viewed as a transformative force in redefining the open-access movement. Specifically, it calls for the dismantling of entrenched structures that perpetuate exclusion and inequality in scholarly communication and knowledge dissemination. This is deemed to be a two-step process. The first step is to identify inequitable structures and second is to seek alternatives.

Identifying inequitable structures

This step involves critically examining and identifying the systemic structures and practices that perpetuate inequality, exclusion, and marginalization. This process requires a thorough understanding of the historical, social, and economic contexts that have shaped these inequities. For instance, in the realm of scholarly communication, this includes analysing power dynamics, economic models, and institutional practices that prioritize certain voices and epistemologies over others.

Seeking alternatives to promote equity, inclusion, and diversity

The second step entails developing and implementing alternative structures or remedies that foster equity, inclusion, and diversity. This involves reimagining systems and processes to create spaces where all voices, particularly those historically excluded or marginalized, can contribute and thrive. In the context of open access (OA), this means challenging commercial publishing models, supporting community-driven initiatives, and promoting linguistic and regional diversity in scholarly output.

By approaching social justice as both a diagnostic and transformative process, it is proposed that it can serve as a guiding principle for advancing equity and inclusivity in the OA movement. Through this lens, social justice becomes not only a moral imperative but also a practical framework for action, aimed at creating a more equitable and inclusive knowledge ecosystem.

The golden philanthropic thread woven through the Berlin, Bethesda, and Budapest Declarations is the removal of financial barriers to access to information. However, the introduction of article processing charges to advance OA inevitably added another layer

of discrimination against the dissemination of African scholarship. Even more damaging in the current publishing ecosystem are the prevailing systemic conscious and unconscious biases. These biases directly contradict the philanthropic ethos of the Declarations as they continue to marginalize African scholarship and perpetuate 'knowledge colonization'.

Systemic inequalities within the current publishing ecosystem exacerbate the information divide and marginalization of research voices from Africa.

Decolonizing scholarly communication: toward epistemic justice

It is posited that scholarly communication has long been shaped by global north, consciously or unconsciously, practices that marginalized global south knowledge system. The inherent biases of the current knowledge systems perpetuate inequities in global research and reinforce the dominance of Western epistemologies. Hence, the dire need for the decolonization of scholarly communication to dismantle these inequities by promoting inclusivity, valuing diverse epistemologies, and challenging the structures that privilege Western knowledge production, in order to correct the legacy of colonial knowledge systems.

The legacy of colonial knowledge systems

Colonialism left a long lasting mark on global knowledge systems, embedding hierarchical structures that prioritize Western scientific paradigms and neglected indigenous, local, and non-Western knowledge. This legacy is evidenced in areas such as:

- Language hegemony: English is the primary language of academic publishing, marginalizing scholars who write in other languages and limiting the global exchange of knowledge - stifling bibliodiversity¹.
- Metrics of prestige: Indicators like the journal impact factor and h-index are disproportionately skewed toward Western-centric journals, creating barriers for scholars from the global south.

Decolonizing scholarly communication requires confronting these issues and creating systems that are inclusive, equitable, and reflective of global diversity.

The author suggests that Diamond OA is the most viable way to create an inclusive and equitable publishing ecosystem.

¹ Bibliodiversity is the diversity of knowledge production and sharing. It promotes a wide range of voices, perspectives, formats, and languages in publishing to avoid dominance by commercial interests and ensure inclusive, community-led publishing.

Definition of diamond open access

Raju (2024) defines Diamond OA as a scholarly publishing model where scholarship is free for both readers and authors. Simply put, there are no article or book processing charges, nor are there any subscription or purchasing costs. This model is being used by academic libraries to develop more diverse collections that reflect a wider range of languages, perspectives, and regional scholarship. This model is typically supported by institutions, academic consortia, libraries, governments, or other funding bodies. It emphasizes the principle of equitable access to knowledge and publishing opportunities, particularly for communities and regions with limited financial resources. However, Raju (2024) notes that certain nuances give Diamond OA its distinctive characterization and makes provision for contextual flexibility to foster relevance resulting in equity and inclusion. These three distinctive characteristics are social justice, non-commercialization, and equity and inclusivity.

From a global south perspective, when social justice, scholarly communication, and Diamond OA converge for the creation and dissemination of information, the result is a decolonized, demarginalized, inclusive, and equitable knowledge ecosystem.

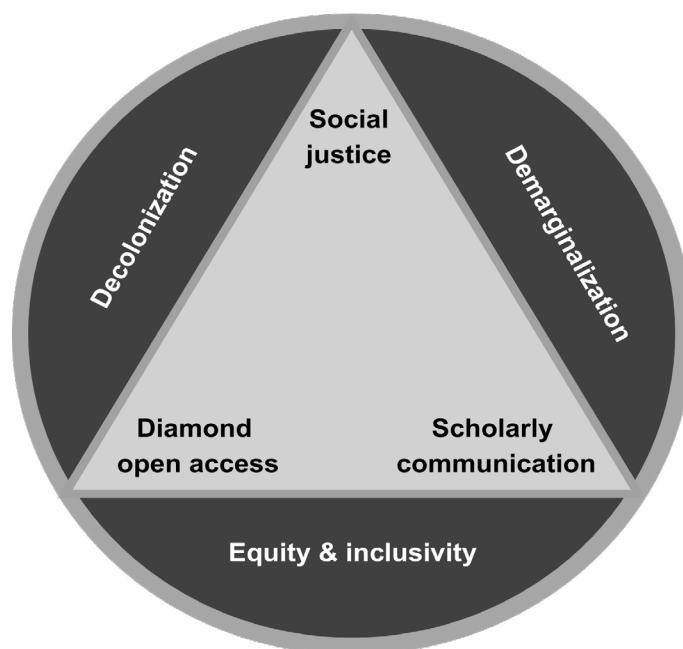


Figure 1: Relationship between diamond OA, scholarly communication, and collection development

The relationship between Diamond OA, scholarly communication, and collection development reflects a transformative shift in academic and research ecosystems. Diamond OA enhances scholarly communication by fostering equitable knowledge sharing, amplifying underrepresented voices, promoting open practices, and decentralizing control from commercial publishers. In collection development (to be discussed later in the essay), Diamond OA shifts libraries' focus to curating open resources, realigning budgets to support Diamond OA initiatives, and including diverse, regional, and non-mainstream knowledge in their collections, while also ensuring sustainability.

Scholarly communication influences collection development by prioritizing access over ownership, addressing gaps in traditional collections, and ensuring the preservation and accessibility of open resources. Libraries play a central role in bridging these areas, advocating for Diamond OA, curating and preserving open knowledge, and contributing resources to sustain equitable publishing models. Together, Diamond OA, scholarly communication, and collection development drive an inclusive and open scholarly ecosystem, with libraries at the forefront of fostering equitable access and sustainability.

The relationship between scholarly communication, social justice, and Diamond OA offers a powerful opportunity to reshape the global knowledge ecosystem. Scholarly communication provides the essential framework for generating, sharing, and preserving knowledge, while social justice serves as a guiding principle to confront systemic inequalities and foster inclusivity. Diamond OA, with its emphasis on non-commercialization, equity, and inclusivity, stands out as a model well-suited to address the disparities embedded in traditional publishing systems.

It is important to recognize the critical need to decolonize scholarly communication by dismantling historical biases and advancing epistemic justice. Academic libraries play a pivotal role in bridging the gap between scholarly communication and collection development, ensuring equitable access and sustainable publishing practices. In uniting these principles, a more inclusive, equitable, and diverse knowledge ecosystem emerges, fostering a truly global scholarly community where all perspectives are valued. This framework transforms the promise of social justice into actionable change, paving the way for a more sustainable and fair future in scholarly communication.

Be that as it may, for now, collection development must become synonymous with scholarly communication – collection must transition into collection development. It means that collection development needs to transition from a mere accumulation of information resources to be an active, dynamic process of development that supports scholarly exchange.

Be that as it may, for now, collection development must become synonymous with scholarly communication – going forward, collection development must transition into scholarly communication. This implies that collection development needs to shift from the mere acquisition of information resources to being an active, dynamic process that supports access and dissemination of scholarship.

Collection development in transition

Collection development has been, from the earliest days of librarianship, a core function with libraries playing a key role in selecting, acquiring, organizing, and curating collections. This role is in continuous transition, especially now with the impact of the internet and the growth of the OA movement. In its current iteration, collection development encompasses not just traditional selection and acquisition but also a commitment to enhance access and equity, navigate the challenges of digital content, and support a more open and inclusive information landscape.

The selection and acquisition components of traditional collection development are accomplished through collecting from the outside for the inside, that is, buying or subscribing via vendors for use by the purchaser/subscriber's institution's researchers and students. In the current OA and internet-enabled era, collection development must evolve from a purely institutional focus to a more outward-facing approach, where scholarly output generated by the institution is systematically organized, packaged, and disseminated for broader societal consumption, including the general public. Another string to the collection development bow is the digitization of special collections. These digitized special collections are now accessible to a much wider reading audience. Digitization of unique collections is now an integral part of a newly defined collection development process.

This expanded approach is championed by Corral (2018), who posits that collection development of the future must look beyond traditional, locally based collections and rather towards the development of large-scale global collections that are accessible to researchers and lifelong learners around the world, irrespective of their location and affordability.

Corral's perspective is even more relevant today, given the financial challenges that burden academic institutions resulting in massive reductions in subscription budgets. One of the main interventions being considered is the shift from subscribed collections (just-in-case) to enhanced accessibility (just-in-time). Another key intervention is the adoption of OA practices. In the context of collection development, the OA term associated with collection development is *scholarly communication*.

Open access is a publishing model that provides free, unrestricted access to scholarly research outputs by the end user. In this model, authors generally retain their copyright but may utilize licenses (such as Creative Commons) that allow others to share, use, or build upon their work legally, while still acknowledging the original creator. This approach aims to increase knowledge dissemination and accessibility, supporting equity in research and enabling broader public and academic engagement. This transition to scholarly communication demands that library and information professionals expand their knowledge and skill set.

It is asserted that collection development and scholarly communication share a common underlying purpose—the former rooted in long-standing traditional practices, and the latter drawing from these practices with an added emphasis on social justice.

Scholarly communication and the research life cycle

Scholarly communication has become an integral part of the research life cycle, adding a critical component through a differently mediated dissemination mode of scholarly output.

The first phase of the research life cycle is planning. In this phase, OA to scholarly content provides researchers with free access to a wider array of research materials, enabling them to explore more ideas and perspectives. In the gathering phase, researchers have access to a wealth of scholarly materials without paywalls, streamlining the literature review process and fostering a more informed research environment; free access to scholarship enriches this phase. Additionally, access to literature from previously marginalized research voices is enhanced, enriching both this and the creation phases of the research process.

The sharing phase is the moment of truth, as social justice principles dictate the free sharing of scholarship. Diamond OA facilitates the implementation of these principles, as it removes costs for both readers and authors. Diamond OA eliminates article processing charges, facilitates the publication of scholarship that may not be in mainstream languages, and removes geographic biases, offering global south regions fair opportunities to get published without compromising on academic rigor. The preservation phase has, by default, become integral to providing OA to scholarly content. Institutional repositories are the most prominent forums for the open sharing of scholarship, and universities with these repositories often have a preservation strategy. The measuring phase in the open-access space enables better tracking of research impact and provides metrics that can inform future funding and collaboration decisions.

Open access and advancements in scholarly communication contribute significantly to making research more accessible, collaborative, and impactful throughout the research life cycle, while also presenting challenges that the academic community must navigate.

Synopsis of reimagining scholarly communication, collection development, and LIS education

Evidently, scholarly communication must be reimagined through a social justice lens to confront systemic inequities that marginalize research voices, particularly from the global south. The enduring legacy of colonial knowledge systems, characterized by language hegemony and Western-centric metrics like the journal impact factor, continues to reinforce exclusion and inequity in academic publishing. Addressing these challenges necessitates a focus on decolonization, demarginalization, inclusivity, and equity in scholarly communication, with the Diamond OA model serving as a critical pathway to achieving these goals.

The Diamond OA model removes financial barriers for both readers and authors, promotes linguistic and regional diversity, and supports non-commercial, community-driven publishing models. By prioritizing equity and inclusion, Diamond OA not only addresses systemic disadvantages embedded in traditional publishing systems but also creates opportunities to redefine the role of academic libraries in transforming collection development. Libraries are now tasked with curating collections that reflect diverse epistemologies and regional perspectives while fostering a more equitable and sustainable knowledge ecosystem.

In this reformed scholarly communication landscape, integration into the research life cycle demonstrates its growing centrality to academic librarianship. The transition from traditional collection development to dynamic knowledge curation aligns libraries with the principles of social justice, empowering them to play a pivotal role in fostering a more inclusive global scholarly community.

Table 1: A comparison between scholarly communication and collection development

Aspect	Scholarly communication	Collection development	Comments
Definition	The process of creating, evaluating, disseminating, and preserving scholarly work.	The process of selecting, acquiring, and managing resources for a library or institution.	It is envisaged that collection development is on a trajectory to becoming a sub-set of scholarly communication.
Primary purpose	It is to facilitate the sharing and accessibility of research and knowledge.	Is to build and maintain a library's collection to meet institutional user needs.	In an era where there is growing need for access of digital content, access is fast replacing ownership. Libraries need to reinvent themselves to stay relevant.
Key activities	Publishing, open access advocacy, research data management, and copyright compliance.	Selection, acquisition, cataloguing, weeding, and collection assessment	Collection development activities become a sub-group of activities of scholarly communications.
Emphasis is on	On open access and equitable sharing of knowledge. Inclusivity and bibliodiversity are strongly emphasised.	On building and maintaining information resources to meet the informational, educational, and research needs of its users and supports the institution's goals.	Scholarly communication is driven by social justice principles and aligned to the Universal Declaration on Human Rights (1947), that is, the right to access and share (disseminate) knowledge. Lorcan Demsey's outside in and inside out strategy becomes significantly relevant. Just in case (collection development) refers to acquiring materials in advance to anticipate potential future needs, ensuring resources are readily available. Just in time (scholarly communication) focuses on obtaining resources only when they are specifically requested or immediately needed. If the resources are freely available, they become accessible, via the web, when necessary.
Impact measurement	Citations, altmetrics, downloads, and societal impact. Focus is on a more holistic approach taking into consideration qualitative factors such as local relevance, societal impact, and long-term value. It recognizes the importance of diverse research, including work that may not have immediate global visibility	Usage statistics, cost per use, and alignment with institutional goals. Focus is on quantitative measures like citation counts and journal impact factors to evaluate research influence.	Scholarly communication provides a more comprehensive view of research impact, while the numbers approach (citations or journal impact factors) has demonstrated evidence of marginalising global south research. A comprehensive approach brings into focus factors such as societal relevance, local impact, and interdisciplinary contributions. It promotes equity by valuing diverse types of research.

Achieving this transformative vision requires embedding scholarly communication into the Library and Information Science (LIS) curriculum. The fusion of collection development into scholarly communication must be introduced at the library school level. The curriculum should prepare library professionals to advocate for equitable publishing practices, navigate the complexities of OA, and actively shape the evolving scholarly communication landscape. Moreover, integrating scholarly communication into LIS education establishes the foundation for a truly inclusive and sustainable scholarly community, where diverse perspectives are not only acknowledged but celebrated.

LIS education and scholarly communication

There is significant evidence in the literature that points to the neglect, by library schools/programmes, to mainstream scholarly communication in their curricula. As early as 2015, Finlay, Tsou and Sugimoto recorded their concern with regard to the “neglect [of] scholarly communication at the library school level”. Their prediction was that library schools would mainstream scholarly communication, given that libraries were increasingly devoting more resources toward launching and maintaining scholarly communication initiatives. The blog post by Kingsley (2017) points to the continued failure of library schools in the UK to deliver programmes in support of scholarly communication. Bonn, Cross and Bolick (2020) affirm that scholarly communication has arisen as a core academic librarianship competency, but formal training on scholarly communication in library schools in the USA is rare. Raju (2019) observed that academic libraries in South Africa are actively embracing new and emerging trends in scholarly communication; however, “LIS schools’ curricula do not seem to be keeping pace with this development”

This book addresses a pressing and underexplored need in LIS education: the inclusion of scholarly communication as a core, rather than peripheral, aspect of the curriculum. Traditionally, LIS programs have concentrated on topics like cataloguing, reference services, and information literacy. While these areas remain foundational, they do not fully address the skillset and knowledge base necessary for supporting the scholarly communication functions that libraries are increasingly responsible for today. From navigating complex copyright issues to supporting data management plans, promoting open science, and managing digital repositories, LIS professionals are now expected to be well-versed in areas that extend far beyond traditional library roles.

At its core, scholarly communication is undergoing a profound transformation, driven by key trends that reshape how knowledge is produced, shared, and valued in academic and public spheres. The OA movement, for instance, has introduced new models of knowledge dissemination that challenge the conventional paywalled systems of academic publishing.

Originally catalysed by a desire to make research freely accessible to the public, OA has grown to influence mandates from funders, affect tenure and promotion criteria, and inform new publishing practices. Furthermore, the digital shift—both in research creation and dissemination—has led to an emphasis on repository management, metadata quality, and digital preservation skills, which are now indispensable for LIS professionals supporting scholarly outputs.

Another significant trend impacting scholarly communication is the increasing commercialisation of academic publishing. Major commercial entities dominate the publishing industry, and these corporations are rapidly expanding their influence by acquiring tools, platforms, and services across the research lifecycle. This trend raises critical ethical questions about data privacy, content ownership, and academic freedom, all of which impact the way information is controlled and accessed. LIS professionals are uniquely positioned to respond to these challenges by advocating for sustainable and equitable information practices that prioritize OA, knowledge equity, and public benefit. However, to fulfil this role effectively, LIS graduates must be trained to understand the broader landscape of scholarly publishing and its socio-economic dimensions, equipping them to critically evaluate and actively engage in shaping the future of scholarly communication.

Structure of the book

This book integrates theoretical perspectives and practical applications to embed scholarly communication into LIS curricula, positioning it as a foundational resource for LIS educators. By treating scholarly communication as an essential component rather than an optional specialization, LIS programmes can better prepare graduates for the diverse and challenging roles demanded of contemporary information professionals.

The evolving landscape of LIS education and practices requires critical reimagining to foster inclusivity, address social justice, and meet the needs of global communities. This book reflects a strong consensus on the need to reform LIS education and scholarly communication to align with principles of equity, access, and diversity.

The book is framed by four key themes:

- Scholarly communication in promoting social justice
- Linguistic and cultural diversity
- Curriculum realignment in LIS education
- Alternative models in scholarly communication

These discussions highlight the importance of reshaping LIS education and practices to prepare librarians for increasingly diverse and inclusive professional landscapes.

Social justice and inclusivity in LIS education

There is an urgent need to embed social justice principles more effectively into LIS curricula. While the profession has long espoused commitments to diversity, equity, and inclusion, challenges such as institutional resistance and discomfort with sensitive topics have hindered progress. The COVID-19 pandemic served as a catalyst for reevaluating educational practices, emphasizing the importance of culturally competent and socially responsible LIS professionals. Embedding principles such as equitable access, respectful relationships, and community building into LIS programs can help address systemic inequities and better prepare graduates to meet the social realities of their communities.

The pandemic heightened awareness of social justice issues within the LIS profession, prompting significant reassessments of LIS curricula. This period of reflection emphasized the need to dismantle systemic inequalities through education. By incorporating social justice frameworks, LIS programs can empower students to challenge traditional gatekeeping practices, advocate for marginalized groups, and promote inclusive knowledge-sharing practices. The pandemic also underscored the critical role of scholarly communication in fostering a more equitable academic ecosystem.

Linguistic and cultural diversity

This theme examines the importance of embracing linguistic and cultural diversity to promote inclusivity and equity in scholarly communication and LIS education.

Multilingualism in scholarly publishing

The predominance of English in mega journals has far-reaching implications for non-English-speaking authors, editors, and reviewers. This linguistic hegemony creates hierarchical structures and biases that contradict the inclusive aspirations of open-access initiatives. The concept of “balanced multilingualism” is proposed as a viable strategy to foster inclusivity in scientific communication, advocating for the use of multiple languages to cater to the diverse needs of global research communities. The call for greater multilingual resources and policies underscores the need for academic publishers to accommodate linguistic diversity and ensure equitable access to scientific knowledge.

Local knowledge and cultural perspectives

Integrating local and indigenous knowledge into LIS programs is essential, particularly in regions such as Africa and New Zealand. The dominance of Western-centric epistemologies often marginalizes local traditions and knowledge systems. By addressing the information and cultural needs of various communities, including Māori, Pacific, Asian, and other marginalized groups, LIS curricula can foster inclusivity and diversity.

The indigenization of curricula serves as a model for addressing the unique information needs of all groups, ultimately benefiting the broader community.

Curriculum reform and alignment

Unpacked in this theme is the need for global alignment and regular updates in LIS curricula to ensure relevance and equity, emphasizing skills in data management and the decolonization of knowledge practice.

Curriculum realignment and uniformity

A lack of uniformity and effectiveness in LIS curricula globally poses challenges for graduates seeking employment or pursuing further education. Gaps in essential skills, particularly in information technology, highlight the need for regular reviews and updates to ensure relevance in an evolving information landscape. Global alignment of LIS curricula, supported by comparability matrices and collaborative efforts with international scholars, can enhance the educational experience and marketability of LIS graduates.

Data management and algorithmic decolonization

The integration of data librarianship and data management into LIS education is a critical step toward promoting social justice and decolonization. Algorithmic colonization and the dominance of Western epistemologies in data processing exacerbate inequalities. By reimagining curricula to include indigenous data methods and equitable scholarly communication practices, LIS programs can empower librarians to address data inequities and contribute to the democratization of knowledge.

Alternative models in scholarly communication

This theme explores scholar-led publishing as a community-driven alternative to commercialization and emphasizes the need for collaborative efforts to reform LIS education and promote equity and inclusivity.

Scholar-led publishing

The rise of scholar-led publishing initiatives offers a community-oriented alternative to the commercialization of OA. While these initiatives have the potential to resist commercial pressures and promote equitable knowledge dissemination, concerns about their sustainability and susceptibility to co-option by commercial interests must be addressed. Institutional logics provide a framework for understanding the values and norms influencing scholarly communication, offering insights into the long-term viability of scholar-led publishing models.

Collaborative approach for reform

Reforming LIS education and scholarly communication practices requires a collaborative approach involving educators, researchers, and professional organizations. Collective efforts can ensure that LIS programs remain inclusive and responsive to the needs of diverse communities. Engaging stakeholders across sectors can help develop and implement curricula that address systemic inequalities and promote social justice. Such collaboration is essential for creating educational frameworks that empower future professionals to engage meaningfully with issues of equity, access, and diversity.

Roadmap for reimagining LIS education

The collective insights presented outline a comprehensive roadmap for reimagining LIS education and practices. By integrating diverse perspectives, addressing systemic barriers, and promoting equitable access to information, the proposed reforms aim to create a more just and inclusive academic environment. Ongoing reflection and adaptation within LIS curricula are essential to meet the evolving demands of the information landscape and effectively serve all community members. These efforts will ensure that LIS education remains a cornerstone of social justice and inclusivity in the information profession.

Summation

The evolving discourse on social justice in academic librarianship highlights the need to realign LIS education with social justice values, focusing on scholarly communication. The author posits that despite its growing significance, LIS curricula have not fully integrated social justice-driven approaches, creating a vacuum between theory and practice. *Advancing Social Justice Through Curriculum Realignment: Centering Scholarly Communication in LIS Curricula* explores how integrating scholarly communication within LIS education can address inequities in knowledge production and dissemination, particularly through Diamond OA.

Diamond OA is viewed as a viable option to dismantle colonial knowledge structures and overcome systemic barriers in academic publishing. It fosters an inclusive and equitable knowledge ecosystem by promoting free access to scholarly materials, making it a critical option in the transformation of scholarly communication. The touch points between Diamond OA, scholarly communication, and collection development signals a transformative shift in access and dissemination of scholarship. In this cash strapped digital era, collection development has to transform from merely accumulating resources to curating open, diverse, and sustainable collections that reflect global and regional epistemic perspectives. Libraries are pivotal in redefining collections and supporting equitable publishing opportunities for scholars worldwide.

For LIS education, integrating scholarly communication into the curriculum is essential. As libraries transition from traditional collection development to curating OA collections, LIS professionals must be equipped with the necessary skills to navigate digital repositories, promote open science, and support the evolving role of libraries in fostering a more inclusive scholarly ecosystem. This integration ensures that future professionals are prepared to actively shape equitable and sustainable scholarly communication practices.

Academic libraries and LIS professionals play a key role in advocating for OA and ensuring that scholarly resources reflect diverse perspectives, contributing to the sustainability of the scholarly ecosystem. Integrating scholarly communication into LIS curricula is crucial for preparing future professionals to meet these challenges and drive a more equitable scholarly landscape.

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SECTION A

Setting the context

Scholarly Communication for Social Justice and Decolonised Education: Implications for LIS Curriculum Realignment

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Abstract

This essay considers implications for a realigned library and information science curriculum for the achievement of social justice in scholarly communication and decolonised education. The essay explores the issues that make the realignment imperative and argues that the decolonisation of education in general and LIS education specifically is crucial. In this way, the essay makes a link between scholarly communication, social justice, decolonised education, and LIS curriculum realignment. Its main thesis is that a decolonised LIS education system is critical for promoting social justice in the scholarly communication system and a decolonised education system. The essay explores how LIS has dealt with the issue by applying Fraser's 2005 framework of social justice to characterise the interventions. The conclusion is that there have been interventions that are affirmative and transformative, and argues for a continuation of these interventions to engender social justice in scholarly communication through a realigned LIS curriculum and practice.

Keywords: scholarly communication, social justice, decolonised education, LIS curriculum, epistemic justice

Introduction

The Association of College and Research Libraries (ACRL) (2003) defines scholarly communication as the

“system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use. The system includes both formal means of communication, such as publication in peer reviewed journals, and informal channels such as electronic mailing lists”.

There is acknowledgement that the scholarly communication is dominated by a handful of Western publishers, resulting in inequitable access and contribution to global knowledge, especially for Global South scholars (Asare-Nuamah, 2003; Claasen, 2024; Lor, 2023; Pratt & De Vries, 2023). Social justice is about parity of participation (Fraser, 2005), which in this case is about participation in all aspects of scholarly communication from access to recognition, contribution, and representation in the global body of knowledge. The scholarly communication system, which feeds from and reinforces the current system of education does not represent a parity of participation. This essay is premised on the fact that the current practice of scholarly communication perpetuates the power relations in the global knowledge economy and in institutions of higher learning. There is a nexus between scholarly communication, social justice and decolonised education that has an impact on a LIS curriculum which has been recognised, and a lot of work has gone into finding ways of addressing the decolonisation of education, and the role of scholarly communication and library education (Adam, 2020; Birdi, 2021; Brunette-Debassinge et al., 2022; Campbell & Sich, 2023). This essay discusses these interventions using Fraser's 2005 framework of social justice to situate current strategies into the framework that articulates two types of change: affirmative and transformative change. The essay highlights the need for both affirmative and transformative change for the decolonisation of education and LIS education to achieve epistemic justice (Kidd et al., 2017).

Background

There is no single agreed-upon definition of decolonising education (Campbell & Sich, 2023). Decolonising education requires a move from "minor reforms" at individual level to "major reforms" (Stein, 2019; Brunette-Debassige et al., 2022). Marsh (2022) defines decolonialising education as "a consideration of the ways that legacies of colonialisation prevail and are perpetuated in hierarchies of power and of knowledge in universities". Decolonisation is about reversing the dominance of Eurocentric worldviews for a more balanced representation of knowledge and viewpoints. It involves unlearning, uncovering and transforming legacies of colonialisation, and making space for other knowledges (Campbell & Sich, 2023). Since it is rooted in the historical struggle against colonialism, it continues to evolve in response to contemporary challenges. Many scholars view it as an epistemic practice aimed at moderating and modulating the voices of colonial knowledge and centering African experiences and knowledge systems (Ndlazi, 2021).

The seeds of decolonial education were sown during the anti-colonial struggles of the mid-20th century. The latter half of the 20th century saw a resurgence of interest in indigenous knowledge systems. This movement was instrumental in shaping the decolonial education discourse.

The era of globalization brought new challenges and opportunities. While it facilitated global connections, it also intensified economic inequalities and cultural homogenization. This context led to a renewed critique of Western dominance and a call for more equitable and inclusive education systems. In recent years, student movements like #RhodesMustFall and #FeesMustFall in South Africa have brought the issue of decolonising education to the forefront (Ndlazi, 2021). But calls for decolonised education are not just limited to the Global South as the discourse has gained traction even in the Global North (Marsh, 2022; Camphill & Sich, 2023).

Education is described as a “site of social reproduction which upholds one canon of knowledge to the exclusion of others” (Faul & Welply, 2021). Numerous authors (Raju & Badrudeen 2022; Funk & Guthadjaka, 2020; Cox, 2023) have explored and decried the role played by the dominant education system in perpetuating a standard of academic scholarship that overlooks the epistemologies of cultures outside the Euro-Western environment. The academy acts as a powerful gatekeeper of what is considered worthy research and knowledge, through its teaching, research, service, and promotions. Decolonising education involves the interrogation of historical legacies and dominant forms of knowledge, as well as an understanding of how they privilege certain groups, countries or cultures over others. It seeks learning that is embedded in local realities rather than made to adhere to universalised standards. Education is known to be transformative, and therefore its decolonisation is about relevant education to enable that meaningful transformation. Chimamanda (2009) made the point that the one-sided story leaves humanity poor.

Scholarly communication and current education systems reinforce each other and perpetuate the current global politics of knowledge. What is taught and researched, and the methodologies used reflect the global politics of knowledge and the value they place on epistemologies. The decolonisation of both education and scholarly communication are therefore key to ensuring systems that advance the principles of social justice. And so, in the quest for social justice, calls have been made to decolonise education and to reengineer scholarly communication.

Problem statement

There is an intersection between scholarly communication, decolonised education, and social justice which needs to be inhabited to address the lack of parity of participation in scholarly communication. How this space is inhabited through a realigned LIS curriculum is the subject of this essay, which aims to determine this. It is contended that scholarly communication and an education system influenced by historical forces of colonialism and current forces of neocolonisation are complicit in keeping some voices unheard. Given this situation, what is the implication of this on library education realignment?

Much has been written on interventions to decolonise education in general and library education and practice in particular (Birdi, 2021; Brunette-Bassingé et al., 2022; Campbell & Sich, 2023; Hopkins et al., 2023). However, to the best of the author's knowledge, no one has considered the interventions and categorised them in terms of the approaches taken. Using Fraser's 2005 framework of social justice, the essay identifies and discusses the interventions that have been made. The categorisation of the interventions provides a clear picture of the measures that have been taken. This essay explores how library and information science programs have integrated the principles of social justice and decolonisation into their curricula to ensure that future librarians are prepared to foster inclusive environments that support diverse voices in scholarly communication. By so doing, the essay aims to contribute to the ongoing discourse on education and practices in library science for a realigned curriculum for decolonised education and system of scholarly communication. Fraser's (2005) Social Justice Framework is used as a lens to determine the nature of the interventions. Three dimensions of social justice are identified as economic, cultural and political. Social injustice occurs in scholarly communication when there is economic maldistribution, cultural misrecognition, and political misrecognition. In scholarly communication these injustices occur as follows:

- Economic maldistribution, where participants do not have equitable access to required resources for equitable participation in scholarly communication. This translates to inequitable access to published knowledge, research funding, institutional support and research capacity.
- Cultural misrecognition where scholars are denied opportunity to be published because of their identity, culture, methods, geography, and language. The extant editorial and peer review processes play a major role in gatekeeping who gets published.
- Political misrepresentation where the existing power relations inform decisions as to what is valued knowledge without considering the views of others in those decisions.

To address these social injustices, affirmative/ameliorative and transformative approaches are typically used (Fraser, 2005). A literature review of interventions in the LIS community was conducted and provided an opportunity to analyse and classify the interventions accordingly. Affirmative measures are regarded as measures that seek to apply ameliorative adjustments – these do not address the underlying structural power issues, whereas transformative approaches seek redress of power and social relations (Fraser, 2005).

Social justice, epistemic justice and scholarly communication

Social justice

Social justice can be defined as a movement or practice that is focused on achieving fairness, equity, inclusion, and self-determination of individuals or groups in a society. Borrowing from Fraser (2005) cited in Hodgkinson-Williams and Trotter (2018), social justice is also defined as parity of participation and is both an outcome and process. Lambert (2018) defines social justice as a process and goal to achieve a fairer society through actions guided by the principles of redistributive justice, recognitive justice and representative justice. Social justice has a broad intellectual tradition (Etchezahar et al., 2024) that recognises that we live in a world characterised by economic, social and political inequalities. Notably, early discourses on social justice focused on redistribution of resources and recognition and representation were added later (Lambert, 2018; Adam, 2020). Redistribution refers to fair allocation of resources, opportunities and wealth in society to address economic inequalities. Recognition is about respecting diversity, valuing people equally and giving visibility to marginalised groups. Representation refers to ensuring the active participation of people/communities in decisions and activities that affect their lives. Thus, social injustice comes about when there is “economic maldistribution, cultural misrecognition, and political misframing” (Adam, 2020). Social justice can therefore be analysed by considering the redistribution of resources, recognition of diversity, and representation or participation in decision-making. Fraser’s 2005 social justice framework identifies three ways that the participation and processes in life and any endeavour can be deemed to be socially unjust. These injustices are referred to as economic maladministration, cultural misrecognition, and political misrepresentation.

Addressing these injustices can take two forms, affirmative and transformative, where affirmative responses address injustices in an ameliorative manner through the redistribution of resources, attempts to recognise others, and improved representation of others. Affirmative approaches aim to correct inequitable outcomes of social arrangements, whilst not disturbing underlying social structures (Fraser, 2005). Transformative responses address the root causes of injustice as in the economic structure, social and power relations, and thus include the restructuring of economic models to achieve a parity of distribution, ensuring inclusiveness of others and their perspectives, and lastly, re-framing for parity of rights. In essence, they do this by attempting to restructure the underlying framework which gives rise to social injustice (Khan, 2021).

Due to the transformative nature of education, social injustices can be addressed through a decolonialised education that embraces different worldviews, knowledges, cultures and values.

This would lead to transformative as opposed to affirmative change. Levels of decolonisation include a focus on curriculum transformation to reflect diverse perspectives and experiences; a focus on reclaiming and revitalising the use of indigenous languages, knowledge and culture; and pedagogical innovation that is inclusive of culturally responsive and empowering teaching and learning methods.

Epistemic justice

The concepts of social justice and epistemic justice intersect and influence each other. Epistemic justice is a component of social justice, being deeply rooted in how power dynamics influence knowledge access, production and contribution. Both social and epistemic justice highlight inclusivity, equity, and the recognition of diverse forms of knowledge in creating a more just society. Since scholarly communication is about access, production, contribution and dissemination of knowledge, it is appropriate therefore to apply the concept of epistemic justice in a discussion of the system. Pratt and De Vries (2023) identify and unpack the concepts that are related to epistemic justice:

- The coloniality of knowledge - knowledge from the Global North is dominant in the scholarly communication system.
- Extraversion – where philosophers have adopted concepts and theories emanating from external sources.
- Cognitive justice – the right of different forms of knowledge to coexist equally in the global discourses
- Testimonial justice and hermeneutical justice – testimonial justice being a disregard of the views of others as insignificant or not credible; and hermeneutical justice where the knowledge and experiences of a group are marginalised resulting in a dearth of concepts and knowledge as vehicles of sensemaking or articulation of their own experiences.

Pratt and De Vries (2023) identify three layers of epistemic justice that provide a framework for understanding the problem of epistemic injustice and identify possible entry points for addressing the injustice. These layers include questions regarding who produces knowledge (knowledge production), what theories and concepts are recognised and applied in the knowledge production (knowledge application), and whose voices are heard and being sought, and used to produce knowledge (knowledge solicited). Epistemic injustice has been defined by Fricker (2007) as unfair treatment of individuals in their capacity as knowers. The social injustices in scholarly communication, such as inequality and discrimination lead to epistemic injustice by silencing the voices of the marginalised and excluding their knowledges from dominant discourses.

It is a result of unfair treatment in “knowledge related and communicative practices in which the voices, experiences and problems of marginalised individuals, communities, and societies are not being taken seriously” (Cummings et al., 2022, p. 1965). Five conditions under which epistemic injustice can be said to occur are laid out by Byskov (2021):

- The prejudice condition refers to the credibility accorded to a knower based on preconceived ideas or race, gender, ethnicity, social background, sexuality, accent, etc.
- The disadvantage condition which occurs because of the prejudice condition, which affects what is structurally included as credible knowledge in the body of knowledge, leading to an underrepresentation of marginalised groups’ knowledge and experiences.
- The stakeholder condition leads to epistemic injustice when a knower should be contributing to a decision, or in this case a body of knowledge, and is prevented from doing so.
- The epistemic condition is where the knower possesses the knowledge that is relevant, but which is disregarded resulting in underrepresentation.
- The social justice condition holds that epistemic injustice occurs when a knower is excluded by virtue of the other social injustices that they may suffer from.

Epistemic injustice is also defined by Battiste cited in Campbell and Sich (2023) as “cognitive imperialism” where indigenous knowledge and cultures are stolen, silenced or destroyed while Eurocentric epistemologies are presented as more superior and civilized.

Scholarly communication

The history of scholarly communication highlights the ongoing struggle for equitable access to knowledge, and representation of other worldviews and epistemologies. It has witnessed discourses around how knowledge is produced, disseminated, and accessed. The early days of scholarly communication began with the formalisation of scholarly communication through learned societies, and by the 20th century, peer-reviewed journals were established as the primary means of scholarly communication. The peer-review system was criticised as a gatekeeper that ensured the hegemony of Western scientific endeavours. Throughout the 20th and early 21st centuries, access to scientific communication was contested due to the rise of publishing conglomerates that hiked the price of journal titles. The open access movement was led by academics and academic librarians who decried the monopolistic tendencies of the publishers and the fact that they required academics to sign away their copyright and then buy access to their own and other journal articles. Despite this opening up, it has been acknowledged that the current scholarly communication landscape carries with it biases against scholars from certain regions (Raju et al., 2023).

Using the three dimensions of Fraser's framework provides a lens through which to identify the ways that the current system of scholarly communications does not equate to a parity of participation. The first is economic maldistribution which focuses on the inequality of distribution of resources. Scholars in the Global South do not have equitable access to published knowledge, research and dissemination funding, and adequate institutional support for research (Lor, 2023). Scholarly communication currently offers different models of open access to address the inequalities of access to research where, for the most part, the cost of publishing is flipped to authors (Asare-Nuamah, 2023) through article processing charges (APCs).

The second is cultural inequality or misrecognition, where scholars are unable to participate on an equal footing based on their identity, race, culture, and their geographical location. This is due in part to the dominance of Western academic institutions and established researchers in the publication ecosystem, who discriminate against the offerings of less well-known institutions and researchers based on the subject matter covered and the research paradigm adopted (Lor, 2023). It is argued that the open access movement, whilst attempting to provide access to knowledge products, has overlooked the aspect of equity of contribution to the system of knowledge (Claassen, 2024; Baildon, 2018). The open access movement has not addressed the existing biases and power structures that lock out the diversity of knowledge that exists. Whilst authors gain access to knowledge in international journals, they have greater difficulty publishing in them (Raju et al., 2023).

The third is political misrepresentation which is the lack of representation of diverse voices and knowledge production from the Global South (Cummings et al., 2022), due to political and cultural hegemony that privileges voices from the Global North over those of the Global South. The much-vaunted open access movement has not been a solution due to the concentration of power in the few publishers that are based in the Global North. Gaining access to journals of "international repute" does not remove the reality of the power structures that dictate whose knowledge is valued. Scholarly communication systems disadvantage scholars from the Global South (Cox, 2023) by enforcing high APCs that lead to "testimonial injustice", where they are silenced, and cannot give "epistemic testimony". This is further reinforced by editorial board compositions that exclude scholars from the Global South (Roh et al., 2020); the dominance of the English language (Roh et al., 2020), fewer research grant opportunities from the Global South resulting in a reliance on foreign research grant opportunities with their own research agendas, and often having to work with Western scholars and effectively becoming glorified research assistants.

Interrelation between scholarly communication, social justice and epistemic justice

The interconnections between scholarly communication, social justice, and epistemic justice highlight the need for a transformative approach to knowledge production and dissemination that addresses historical inequities and power dynamics (Fraser, 2005). Scholarly communication reflects the site of power as it is deeply rooted in structures that perpetuate social inequalities (Campbell & Sich, 2023). The social justice lens on scholarly communication reveals the global knowledge imbalances and the gatekeeping function of the system. It highlights the power plays within scholarly communication and the exclusionary effects from knowledge production and dissemination (Dawson et al., 2024). Even as the open access movement attempts to promote knowledge as a public good, it is clear that access without participation is not enough (Boyle, 2023). Since epistemic justice refers to the fair treatment of diverse knowledge systems and the recognition of their validity, it challenges the dominant narratives that often marginalize indigenous and local knowledges. The relationship between epistemic justice and scholarly communication is critical; without incorporating diverse epistemologies into academic discourse, the potential for achieving social justice remains limited (Dawson et al., 2024).

Clearly there ought to be a positive relationship between scholarly communication, social justice and epistemic justice. Scholarly communication can play a crucial role in advancing social and epistemic justice within the framework of decolonized education. This process involves recognizing and addressing historical injustices embedded in educational systems, particularly those influenced by colonial legacies. However, this is not the case as noted by various scholars (Baildon, 2018; Cox, 2023), in part due to the underlying politics of knowledge, the monopolistic concentration of the scholarly publishing industry in the Global North, and the current exclusionary system of knowledge. Scholarly communication should offer a platform accommodative of multiple ways of knowing, but hardly does so due to its publication policies and peer review systems that act as epistemic gatekeeping (Campbell & Sich, 2023).

Decolonisation of education, scholarly communication and implications for a LIS curriculum realignment

While social justice has always had a prominent place in the practice of library and information science where libraries and librarians/information professionals are guided by codes of conduct that emphasise social justice such as the ALA Core Competences of Librarianship, they commit “epistemic injustice” in the way they practice collection development, preservation, library instruction, etc (Campbell & Sich, 2023). Libraries and information systems play a critical role in influencing the education system and in scholarly communication, thus their importance in the decolonisation discourse and practice.

In the education space, they play a role in library collections, information literacy programs, and guide the academic staff on appropriate reading lists. In facilitating scholarly communication, they decide on publication outlets to subscribe to; assist in information seeking; help to evaluate possible communication outlets; educate and advocate for open access; assist the navigation of copyright issues, self-archiving, and data management; and have been one of the loudest voices advocating for open science and open data. These roles elevate the need for LIS professionals to be critical practitioners.

Although for the most part the social justice aspect of librarianship is acknowledged, some have pointed out that libraries are a product of and operate in economic, cultural and political contexts that negate the “neutrality” they profess (Jones et al., 2021). It is therefore critical for an education that fosters more awareness and advocacy for change. In addition, the education of LIS students is critical in ensuring that professionals understand the scholarly communication system, their role in it, and how it may contribute to epistemic injustice. All these call for a realignment of the LIS curriculum towards decolonisation. In realigning LIS education, attempts to decolonise LIS curricula have been made, and can be categorised as affirmative and transformative change.

Table 1 below presents a distillation of the decolonisation interventions using the social justice framework adopted from Fraser (2005). In this case the affirmative is viewed as practical interventions that address inequalities, which do not delve into the social structure that gives rise to injustice, and how it might be changed. Affirmative change is largely ameliorative aiming for resource redistribution, cultural recognition and representation. This type of change seeks to bring solutions to structural problems without digging deeper into the causes and addressing the. The focus is on adjustments that may offer some respite. They encompass the inclusion of social justice as a topic in the curriculum, engendering intentionality about decolonising practices, for example, diversifying the collections and challenging non-inclusive structures in knowledge management and their impact on library collections (Clarke, 2019). Such interventions are important as they bring into the mix the practicalities of change.

The transformative approaches, however, go deeper and seek to question and, in the process engender a positionality of change in the LIS professionals. Transformative change involves delving deep to understand and unearth the underlying causes of social injustice and using the understanding to bring about change that includes economic restructuring, re-acculturation (Hodgkinson-Williams & Trotter, 2018), and reframing which is about involving the marginalised in the decision making or creation of appropriate frames (Fraser, 2005).

They involve the adoption of critical pedagogy (amongst others) that explores the current system of knowledge disparity and how to address it by, for example, indigenising the curricula (Ngulube et al., 2015).

Table 1: LIS realignment/decolonisation interventions

Injustices	Affirmative	Transformative
Economic/Maldistribution <i>issues of lack of or limited access to published scholarship due to high subscription costs and ICT infrastructures, research funding, institutional support, and research capacity</i>	Redistribution of resources Champion Open Access Models Review and advocate for diverse library collections Lead in the implementation of institutional repositories in respective institutions Adopt the role of the library as publisher	Restructuring of the economic model Use a decolonial and social justice lens to critique, understand and reflect on: • the power and impact of colonialism on the education project in general • the impact of the above on the LIS profession and practice • the colonial legacy of LIS and its impact • the role and impact of LIS on the institutions they serve and in perpetuating economic maldistribution Determine how to implement change both in the curricula and in the practice for a restructured economic model in scholarly communication

Injustices	Affirmative	Transformative
Cultural/Misrecognition <i>Lack of recognition and value of scholarship based on biases; devaluation based on identity, cultural background, and socio-economic status; domination and hegemony of Global North Publishers and institutions</i>	Recognition Influence change using the Diversity, Equity and Inclusion (DEI) lens on the: • Collection • Services • Spaces • Community service Strengthen the alignment of user-centred services and DEI within the curriculum. Integration of Indigenous knowledge systems (IKS) in teaching and library collections Integration of oral traditions in teaching and learning Inclusion of Indigenous Knowledge (IK) and multicultural studies in the curriculum	Re-acculturation Diversifying LIS content through a curriculum that includes diverse perspectives, theories, and methodologies, prioritising contributions from historically marginalised groups Understanding the scholarly communication system and its role in devaluing non-mainstream knowledge Integrate critical information literacy – equip students to critically evaluate information sources, identify biases, and recognise the power dynamics embedded in knowledge production Educate for the dismantling of domination and hegemonic relations

Injustices	Affirmative	Transformative
Political/ Misrepresentation <i>Limited visibility of research and scholarship from the Global South; decisions made on who and what gets published by dominant scholars and publishers</i>	Representation Forge partnerships with faculty and students to bring awareness to bias in knowledge systems Facilitating research partnerships that centre the voices and expertise of the Global South Diversify the voices included in the curriculum and those teaching it Offer and encourage publishing in alternative platforms Develop local journals Advocate for decolonised research methodologies, embracing diverse epistemologies	Re-framing Infusing critical literacy as a key part of scaffolding a decolonisation approach to scholarly communication Infuse critical librarianship into the curriculum Understand the role of the peer review process and how it should be diversified Support and push for a reframing of the academic promotion system beyond the current metrics being used Question and call out the indexing mechanisms of the main journal databases Understand the scholarly communication system and what needs to be done to change it

Affirmative responses

Economic maldistribution

To address economic maldistribution, the LIS discipline has played a significant role in the development of open access, changing to a degree, the landscape of scholarly communications. Open access is an evolving area that has galvanised funding bodies to play a role in moving knowledge back to being a public good. However, providing access to what is predominantly Global North knowledge is helpful, but more can be done to ensure the same for knowledge from the Global South, ensuring equitable participation by scholars (Baildon, 2018).

Efforts at diversifying library collections abound in the literature. Ocholla (2020) points to the need for academic libraries to acquire, process and disseminate alternative forms of knowledge (local knowledge, indigenous knowledge, etc), side-by-side with Western knowledge. He calls for special collections, institutional repositories and open access platforms to publish locally produced knowledge. Hopkins et al. (2023) document a project that involved the co-creation of a decolonised reading list. This was part of a larger project to decolonise education at Aston University. The aim was to engage racially diverse students to determine alternative voices that could be added to the reading list. Scrutinising reading lists is seen as a step to raise awareness of race or gender bias in the subject (Charles, 2019). This is underscored by Birdi (2021), that LIS education can contribute to university decolonisation where LIS students are encouraged and supported to engage critically with the concepts of decolonisation.

Libraries have also ventured into publishing to ensure equity of participation in scholarly communication for their researchers (Raju & Badrudeen, 2022). Library publishing programs are disrupting the scholarly communication system by enabling “other” voices to be heard, and they address 5 shortcomings of the traditional scholarly communication system - copyright transfer, high rejection rates, slow publication processes, high publishing prices, and limited distribution (Roh & Inefuku, 2016). The participation and visibility of authors in the scholarly communication system are now possible. Raju et al. (2023) describe this as “denorthernising” scholarly communication. An African Continent Platform has been built, enabling multiple institutions to create their own publishing space. They further state that their efforts “will scaffold the transition to information democracy and a reimagined OA movement driven by social justice principles” (Raju et al., 2023, p. 2). Furthermore, academic libraries have championed institutional repositories, whose implementation has grown globally and has enabled access to local content both locally and globally, improving scholars’ visibility (Ocholla, 2020).

Cultural misrecognition

In addressing cultural misrecognition, libraries address diversity, equity, and inclusion (DEI) in various aspects of their work. DEI has been recognised as a global trend that must be included in the LIS curriculum. “DEI principles emphasise the importance of recognising and valuing diversity, promoting equity, and creating an inclusive environment. Incorporating DEI principles in the LIS curriculum can prepare future information professionals to work with diverse communities and serve them effectively. It can also promote social justice, reduce biases and discrimination, and enhance access to information and services” (Mubofu & Mambo, 2023). Librarians must understand DEI principles so that they can review their activities from that understanding (Wilson, 2021). As far back as the 1980s, lamentations that African librarianship was anchored on Western ideologies (Zimu-Biyela & Chisita, 2023) led to calls for the re-Africanisation of libraries. Thus, indigenous knowledge systems, oral traditions and community-based library services were introduced into the curriculum. This introduction has progressed gradually: Ngulube et al. (2015) mapped the inclusion of IKS content in LIS education in Eastern and Southern Africa. Their findings were that the inclusion of IKS content in Africa did not occur as expected - “as colonial pedagogic practices that undervalued IK have continued to dominate the higher education landscape at the expense of the inclusion of IK” (Ngulube et al., 2015).

Tumuhairwe (2013) noted the lack of information on the integration of indigenous knowledge and multicultural studies in LIS curriculum, citing challenges such as perception and attitude, inadequate skills, and funding. Yet in other jurisdictions, such as Canada, Australia and New Zealand, there are efforts to work in partnership with marginalised groups to agree on how sections of the library collection can be grouped and labelled, and this entailed a critical look at the tools used to organise knowledge, for example the terms used to reflect marginalised people in the classification schemes (Charles, 2019). Omarsaib et al. (2023) report that indigenous knowledge in LIS curriculum is gaining momentum globally. Crilly (2023) examined how academic libraries are incorporating social justice concepts such as diversity, decentering and decolonising into their practices. The concept of diversity was found to mainly focus on addressing the culture of whiteness in the staffing of libraries.

Political misrepresentation

Forging collaboration and partnerships for decolonisation is regarded as paramount for addressing political misrepresentation. For example, partnerships between librarians, faculty and students towards decolonising library collections and other resources, reading lists, and what ought to be included in the curriculum (Hopkins et al., 2023). According to Mubofu and Mambo (2023), collaboration can involve working with other institutions, agencies, and stakeholders to share resources, knowledge, and expertise. It can entail

agreements on how to provide information services in an inclusive way. It is thus important to incorporate collaboration and partnership principles into the LIS curriculum to enable information professionals to develop the necessary skills and competencies to work effectively with other stakeholders and organisations (Mubofu & Mambo, 2023). Other measures include the facilitation of research partnerships that centre the voices and expertise of the Global South (Lumb, 2023); offer and encourage publishing in alternative platforms (Raju et al., 2022); advocating for decolonised research methodologies and embracing diverse epistemologies (Moahi, 2020).

Transformative responses

As indicated, transformative approaches speak to the heart of the matter, unequal power, social and economic relations. Birdi (2021) proposes a decolonising framework for LIS education that will focus on a deeper understanding of colonialisation and how it has affected their education, academic libraries, higher education and library services.

Economic maldistribution

Addressing economic maldistribution requires a reflection on the role of the library as an institution and librarianship as a profession and discipline (Jimenez and Cox 2023). It requires a two-pronged approach of reflection on the extent to which the library is a conduit and perpetuator of coloniality, and a reflection on the contribution of the professionals coming out of LIS Schools. This requires a critical consideration of the role of the curriculum in shaping the discipline and the practice of librarianship. The question would be how well the education is preparing professionals to grapple with the issues. Decolonisation of education is inextricably connected to the scholarly communication system. Achieving a decolonised education system requires a re-evaluation of the scholarly communication system following an understanding of its inherent underlying biases and prejudices to other forms of knowledge. Educating the LIS professional to recognise and acknowledge this is a first step towards bringing about change, and to reflect on their tools, frameworks, and practices is yet another step. Birdi (2021) suggests that in addressing structural inequalities, library education must recognise and challenge the systemic and structural inequities inherent in traditional scholarly communication systems. These systems often reflect and reinforce colonialist structures of power, which can exclude marginalised voices and perpetuate social injustices. This is why LIS students must understand colonialisation and its reverberating impact in scholarly communication (Roh et al., 2020). The pedagogy of LIS education must go beyond the objective of students gaining an understanding but focus more on deeper reflection of their role in addressing the issues both through research, and practice.

Cultural misrepresentation

Addressing cultural misrepresentation requires a focus on inclusive and diverse representation of perspectives and voices in the library collections, ensuring that library collections and scholarly communications represent a broad range of authors, languages, and epistemologies, rather than being skewed towards dominant groups. This will entail students' understanding of the level of underrepresentation and appreciating the biases that leads to this situation (Birdi, 2021). Following the discourse of a transformative change in the current systems and practices calls for a realignment of the LIS curriculum towards decolonisation. The realignment involves the unlearning and learning of new ways of valuing and encompassing diversity of knowledge. The focus of the curriculum should be in engendering a deep understanding of the root causes of epistemic justice and how to address it. Realigning the LIS curriculum requires a rethinking of the way information is taught and presented – moving away from Eurocentric perspectives to an incorporation of diverse knowledge systems and experiences. Major reforms to the curriculum can disrupt the very core of epistemic hegemony in higher education and ensure the intentional integration of the knowledge systems of the epistemologically marginalised (Campbell & Sich, 2023). Stein (2019) suggests a number of questions to be asked: what is considered knowledge and why; and who is considered knowledgeable or an authority. This will lead to an understanding of the current scholarly communication system. There are many issues to unpack here, but Asubiaro et al. (2024) highlight the invisibility of Global South journals in the two main indexing databases, Scopus and Web of Science, as a demonstration of the geographical bias inherent in the scholarly communication system which must be understood by LIS graduates.

Political misrepresentation

Addressing political misrepresentation requires a LIS curriculum that engenders agency in the graduates to be in the forefront of changing the status quo – re-framing it. Thus, library education should adopt critical approaches where students actively interrogate the commodification of information, its credibility, and the impact of systemic biases on knowledge production. Critical approaches help students understand and challenge the power dynamics embedded in information systems, fostering a more equitable and just environment for scholarly communication. Further, critical approaches enable students to do the following, as outlined by Campbell and Sich (2023):

- Critiquing and probing positionality of knowledge in educational spaces
- Constructing an inclusive curriculum beyond dominant knowledge system, that is, including other knowledge systems
- Decolonising the environment to bring about relational teaching and learning, encouraging inclusiveness in teaching and learning

- Connecting institutions of learning with those in the community involved in decolonisation movement – exposing students to the colonisation discourse.

In the area of professional values and ethics, library education should emphasise the importance of professional values that align with social justice principles. This includes recognising the role of academic libraries as cultural institutions that can either perpetuate or challenge systemic inequalities. Educators should encourage librarians to engage in self-reflection and critical examination of their practices, ensuring that they do not inadvertently reinforce existing power structures. Mehra (2021) describes the use of critical pedagogies and reflective practice in 3 undergraduate courses covering the following topics: social justice and inclusion advocacy, diversity leadership in information organisations, and community engaged scholarship at the University of Alabama. Campbell and Sich (2023) describe the approach their team took in developing a decolonised LIS curriculum. They involved or co-created the curriculum with their students that revolved around five principles which constitute a decolonisation framework:

- a. Grounding – interrogating the meaning of decolonisation and contextualising it to derive a common definition and a meeting of minds on the rationale of the project, and level of commitment.
- b. Interrogation – involves interrogating the origins of the field and critiquing its impact on the modern knowledge system. Questioning its theories, concepts, institutions etc., and whether they stand.
- c. New learning – involves a new understanding of the discipline through a consideration of perspectives from alternative ways of knowing.
- d. Commitment - having reflected, this involves committing to making or effecting changes in the curriculum.
- e. Rebuilding – the final writing of a new decolonised curriculum.

The result of this exercise yielded a curriculum that included 6 broad outcomes: Knowledge Justice, Critical Reflection, Searching, Identifying and Evaluating Sources, Responsible use of Knowledge, Creation and Dissemination of Knowledge.

The International Federation of Library Associations and Institutions (IFLA) through the Building Strong LIS Education (BSLISE) has endorsed a framework for developing LIS programmes that recognise the role of library professionals in engendering social justice. They recognise that education and, by extension, LIS education are engaged in a process of decolonising teaching, learning and knowledge production (Chu et al., 2022).

They therefore assert that: “LIS, which engages all aspects of information, needs to integrate multiple ways of knowing in its education to prepare professionals to provide effective, equitable, inclusive, and accessible services appropriate to a diverse community and relevant to its local contexts in a globalised economy” (Chu et al., 2022). This is a clear call from an organisation that is in the forefront in promoting the quality of LIS education.

Challenges impeding the alignment of LIS curriculum

Notwithstanding recognition of the need for education and scholarly communication decolonisation, there remain challenges to the transformation of the LIS education in support of the decolonisation project. Birdi (2021) comments that despite calls to decolonise the university, it has been a challenge to understand where LIS education fits in. Whilst the need to decolonise or weave issues of social justice, decolonisation, and epistemic justice into the LIS curriculum is recognised, Campbell and Sich (2023) note that this has not been a wide-scale practice. Accordingly, they have found that while decolonised pedagogies have been introduced into teaching at individual levels, there has not been a widespread adoption of decolonised LIS education programmes. LIS education has been adept at incorporating technology into the curriculum, but not as much the issue of decolonisation (Birdi, 2021). But since the role of academic libraries in addressing decolonisation is acknowledged (Jiminez & Cox, 2023; Ocholla, 2020), it stands to reason that the LIS curriculum must be decolonised to, in turn inform and influence decolonisation of the library. Several challenges have been identified in efforts to realign LIS education.

The first is resistance to change, where LIS programs remain in their belief in traditional information retrieval methods and established databases. It is difficult to bring about change in a system that has been perceived to work for many years. Some see the decolonisation discourse as a fad, and others are apathetic about it. It is a system that has worked for those who have more power to change it and who are advantaged by it, leaving a few lone voices of those who have long been marginalised. However, the need for decolonisation is growing and may yet find its way into LIS education systematically.

The second is the fact that to fully realign a curriculum requires resources in the form of knowledge and expertise on the part of the faculty as well as requisite diverse course materials and these may not be available, especially in some countries in the Global South. Hence there is need for greater advocacy and conferences and workshops that aim to build up the resources required.

The third is uneven implementation where the changes are simply left to individuals as opposed to being a full system change effort. The integration of social justice aspects of library and information work are not even or universal, some programs may offer specific electives without deeper analysis. This may also be due to entrenched systemic barriers that make it difficult for change to be more evenly spread.

The fourth is the limited voices and documentation on the realignment efforts of the LIS curriculum in the Global South. The LIS Department at UCT has been very active in this area and continues to be so. Much of the literature from LIS schools in Africa, for example, centres around reviewing the LIS curriculum in terms of its alignment to global trends, with the focus being on ICTs, digitisation and artificial intelligence. The above notwithstanding, much has been written on the promotion of social justice by librarians through the promotion of culturally relevant collections reflective of the needs of the community; providing active outreach services to underserved communities; and providing information services that do not necessarily involve books and reading, but rather information relevant to empowerment and participation of communities, inclusive for all people. However, LIS curricula must come out clearly on the implementation of critical information literacy, critical LIS scholarship, staff and course materials diversity to ensure wider perspectives, and to include courses on social justice issues in information access and representation. Indeed, Dali and Caidi, cited in Birdi (2021) state:

'If every librarian or information professional inevitably finds themselves working in a diverse environment, why are courses on diversity not part of the LIS core curriculum? Every LIS program realizes the vitality and ubiquity of technology and offers core technology courses, despite the fact that not every LIS graduate will end up in a highly technology- saturated environment. At the same time, practically every LIS graduate will work in a diverse setting with diverse community members, regardless of the type of library or information technology (IT) setting. Yet, courses on diversity are not built into the core.' (Dali & Caidi, 2021, pp. 14-15).

Conclusion

This essay has situated a realigned LIS curriculum in the nexus between scholarly communications, social justice and decolonised education. The contention is that to achieve social justice in both scholarly communication and education, the education and practice of library and information professionals is critical. Given the importance of the academic library within higher education systems and the influence the LIS professionals wield in determining the nature of collections, their organisation, information literacy programmes, and the various services and products, it is imperative that their education be one that

gives them a deeper understanding of the underlying cultural and political structures that determine what is knowledge and who is knowledgeable.

This is important given the fact that both the scholarly communication and education systems do not lend themselves to a parity of participation, and they serve to entrench the extant cultural and political systems. It is however not enough to obtain a deeper understanding, and it is critical that this translates into advocacy and practical measures to decolonise the systems. This essay has distilled the measures into the affirmative and the transformative, and both are important in bringing about the required changes.

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A Hermeneutical Consideration of What Knowledge is Produced Before How it is Shared

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Abstract

This conceptual essay deviates from the focus on how scholars share their output with their academic and other communities (scholarly communication) and instead focuses on scholarly output itself and how this embraces the decolonisation concepts of 'lived experiences' and 'other ways of knowing' to produce socially responsive and impactful scholarly output. This deviation is based on the hermeneutical understanding that what knowledge is produced is as important as how it is shared. Thus, the essay responds to the need to advance social justice through the nuancing of Library and Information Science (LIS) pedagogy with the embedding across the curriculum of decolonisation concepts of 'lived experiences' and 'other ways of knowing', not only for transformative scholarly communication but also for transformative knowledge production leading to socially responsive and impactful research output available for equitable scholarly communication. The objective of the essay, in response to this research problem, is to unpack the concepts of 'lived experiences' and 'other ways of knowing' to better understand their role in transformative LIS knowledge production for purposes of LIS curriculum consideration. The essay recommends that the inclusion of the transformative potential of 'lived experiences' and 'other ways of knowing' in a context of real-world scenarios from the LIS sector in different global locations as well as a hermeneutical reflection of the philosophical constructs of ontology, epistemology, axiology and methodology that inform the philosophical assumptions which guide socially responsive and impactful research, be considered in LIS curriculum design and development for purposes of preparing the next generation of LIS professional practitioners, educators and researchers committed to both transformative knowledge production as well as equitable scholarly communication of knowledge output.

Keywords: decolonisation, LIS education, lived experiences, other ways of knowing, scholarly communication

Introduction

To set the tone for critical engagement of the place of scholarly communication in Library and Information Science (LIS) curricula which is the focus of this section of the edited volume, this keynote essay deviates somewhat from the focus on how scholars share their output with their academic and other communities (that is, the process of scholarly communication). Instead, it goes back a step or two and focuses on the scholarly output itself and how this embraces the decolonisation¹ concepts of ‘lived experiences’ and ‘other ways of knowing’ to produce socially responsive and impactful scholarly output. Such awareness about what is communicated or shared is as important, if not perhaps more important, than the actual scholarly communication process. In other words, LIS curriculum and pedagogy also need alignment in terms of socially responsive and impactful knowledge generation in anticipation of appropriate scholarly communication.

Research problem and objective

Lived experiences of research subjects and ways of knowing outside of dominant knowledge systems have an innate potential for decolonising knowledge production through their hermeneutical influence of the constructs of ontology, epistemology, axiology and methodology² that inform the philosophical assumptions that guide socially responsive and impactful research. Marginalised and under-served individuals in society have a certain awareness based on daily experience which provides them with a special ‘worldview’ or knowledge of certain social realities not generally known to others (Cooke & Kitzie, 2021); and hence the ontological and epistemological value of the inclusion of their lived experiences in the research process.

¹ While “decolonisation is a complex and multifaceted concept” (Birdi, 2022: 102), in the context of this paper it refers to the intentional revealing and undoing of cultural, economic, psychological and other effects (including latent institutional forces) of the colonial experience which was historically imposed on many parts of the world.

² **Ontology** refers to a researcher’s philosophical understanding of the nature of the social world - it is a philosophical study of ‘being’, that is, *what* entities exist in a subject domain, including concepts and categories as well as their properties and relations among them; **Epistemology** refers to the principles that describe *how* we know that which is known about a particular knowledge domain - it describes ways of knowing; **Axiology** refers to the researcher’s understanding of values brought by the research to the study. Such values include, *inter alia*, usefulness of knowledge gained through data collection and its analysis, ethical considerations and possible biases brought by the research and how these are mitigated to minimise impact on the research; **Methodology** refers to the overarching strategy for executing a research study and involves the systematic use of tools in response to a research objective or question, including the use of principles, theories, procedures and methods (Berryman, 2019; Chilisa, 2020; Leavy, 2023).

Therefore the privileging, in LIS curriculum and pedagogy, of the subject of lived experiences of research subjects not only serves to question existing forms of knowledge but also exposes LIS students as future professional practitioners, educators and researchers to a diversity of systems of knowing, both of which serve to incentivise the decolonisation of knowledge production not only for socially responsive LIS research but also for decolonised scholarly communication. Such critical engagement of ways of knowing in the research process is necessary to challenge the often-systematic subordination (Patin et al., 2021; Sebastian, Youngman & Patin, 2022) of the knowledge and cultures of communities outside of the hegemonic global north, notably Europe and North America.

Hence the problem that requires addressing is the need to advance social justice through the nuancing of LIS pedagogy with the embedding across the curriculum of decolonisation concepts of ‘lived experiences’ and ‘other ways of knowing’, not only for transformative scholarly communication but also for transformative knowledge production (or understanding thereof) leading to socially responsive and impactful research output available for equitable scholarly communication. Thus contextualised, the objective of this essay is to unpack the concepts of ‘lived experiences’ and ‘other ways of knowing’ to better understand their role in transformative LIS knowledge production for purposes of LIS curriculum realignment.

Literature and discussion

The section is divided into two sub-sections and integrates a review of relevant literature with critical discussion relating to the research problem and objective outlined earlier. The first sub-section highlights the transformative potential of ‘lived experiences’ for decolonisation of LIS research, drawing (via relevant literature) scenarios from the LIS sector in different global locations and reflecting on this in the context of the philosophical constructs of ontology, epistemology, axiology and methodology that inform the research process. The second sub-section reflects on the transformative potential of ‘other ways of knowing’ for decolonisation of LIS research, also drawing (via relevant literature) scenarios from the LIS sector in different global locations and, again, reflecting on this in the context of the philosophical constructs of ontology, epistemology, axiology and methodology that inform the research process.

‘Lived Experiences’ in LIS research and knowledge production

Lived experiences are generally central to qualitative, usually phenomenological, research which seeks to understand social reality through people’s real-life experiences, and the knowledge gained from such experiences. Hence, as already mentioned, lived experiences of research subjects have an intrinsic probability for decolonising knowledge production.

Drawing from the LIS sector, the paragraphs that follow highlight the transformative potential of lived experiences for decolonisation of LIS research and knowledge production.

The literature (for example, Patin et al., 2020; Patin et al., 2021; Cooke & Kitzie, 2021; Sebastian, Youngman & Patin, 2022) captures the continued dominance of western knowledge systems in LIS research (and professional practice). Hence Cooke and Kitzie (2021: 1288) encourage LIS researchers “to challenge existing power-knowledge structures by privileging the perspectives of those experiencing marginality within and outside of the field”. As already mentioned, marginalised and under-served individuals have a certain awareness based on daily experience which provides them with a special ‘worldview’ or knowledge of certain social realities not generally known to others (Cooke & Kitzie, 2021), and that privileging of such lived experiences serves to question existing forms of knowledge which in turn motivates the decolonisation of research for socially and culturally responsive LIS research.

Dick (2013) offers compelling evidence of this by questioning the traditional application by Ingwersen and Järvelin (2005, as cited by Dick, 2013: 8) of the information seeking and retrieval (IS&R) model to explain the instance of a local African tour guide in the Okavango Delta (in south-western Africa), whose boat “falls behind another” that is leading a boat safari. The tourists, Dick explains drawing from the work of Ingwersen and Järvelin, “are surprised at how quickly the tour guide negotiates the maze of waterways” to catch up with the lead boat “by detecting things like wet reeds caused by the leading boat, and by the direction of the water lilies”. Dick laments that “the socio-cultural contexts of the local African tour guide’s information acquisition ... [are] completely overlooked”. In other words, the role of local context is not used by Ingwersen and Järvelin “to explain how the African cultural environment and information space influence the way the tour guide acquires information Instead, individualism and non-sociality is [sic] affirmed in the description of how the tour guide sets about seeking and acquiring the information that he needs to find his way back to the leading boat”. Dick explains that input from the local tour guide himself about his ‘lived experiences’ with “wet reeds and turned water lilies” (that is, indigenous knowledge held collectively by local people that informs the way they understand the world), would have been a more effective way of understanding the tour guide’s cognitive processes that so quickly enabled him to find his way to the leading boat (the worldview of the local tour guide), instead of drawing from the observations of the European tourists (the worldview of the tourists). Dick (2013: 9) cogently points out that the local African tour guide’s “own world shapes the way he uses signals from nature” to understand reality. “There is, in other words, an alternative way of knowing and constructing reality at work in indigenous knowledge” and Dick goes on to make the point that until western developed theories and models like the IS&R model accommodate alternative epistemology,

they will be socially and culturally biased - abstract theoretical concepts cannot be considered applicable for all information seekers irrespective of their “geographical and socio-cultural contexts” (Dick, 2013: 9).

In her argument that dominant western epistemologies have “downplayed the ... importance of indigenous knowledge” and have “not given voice to the research communities”, Moahi (2020: 245) similarly appeals for “respect for the researched, their culture, language and knowledge (in all its forms)” and to consider this “in determining research agendas, research questions, methodology, data collection, analysis, and dissemination of the knowledge”. Chilisa (2012: 39), too, makes the point that research participants should be involved in all parts of the research and that the “histories, worldviews, ways of knowing, and experiences of the colonized and historically oppressed [and marginalised]” should be recognised for the contribution they can make to research.

Cooke and Kitzie (2021: 1285-1286) in taking a critical view of “outsiders-within-Library and Information Science” in the North American LIS academy, call for the “centering of the standpoints of marginalized groups, incorporating the social and structural contexts informing their experiences” in the academy. Historically, people of colour and women LIS faculty, for example, found that their scholarship “wasn’t recognized, valued, or highlighted as it should have been because it diverted from ... white western norms” (Cooke & Kitzie, 2021: 1286). Cooke and Kitzie posit that the heterogeneity in the backgrounds and experiences of under-served and marginalised groups compared to “mainstream (i.e., white and western)” faculty, could, to some extent, explain the former group’s historical lack of presence in influential positions in the LIS academy which perpetuated a lack of diversity in the academy; and they go on to considerately point out that a similar scenario played out in higher levels of the academy traditionally occupied by “white male scholars” as white women have historically been “discounted”. Scholarship that features issues of “race, class, gender, sexuality, and ability” and which do not necessarily center “white western norms”, is not new to the LIS academy, Cooke and Kitzie claim – “it just has not been widely accepted or appreciated” *by, for example, publishers, editors, reviewers, higher education institutions, etc. – key role players in scholarly communication* (author’s extension of this point). This exclusion is reiterated by McKenzie and Dalmer (2020: 2) in reflecting within the North American LIS context on methodological strategies to bring “invisible work to light” and they, too, explain that such “work may be invisible because it is ignored or overlooked, socially marginalised, economically or culturally devalued” (*again, by role players in the scholarly communication process* – author’s addition). Such transformative analysis of a social reality in the LIS academy in the global north, is instructive in reflecting the ontological and epistemological value of the inclusion of lived experiences in research and scholarship towards decolonisation (in all its forms) of LIS research. And usefully, Cooke

and Kitzie (2021: 1286), remind us that significant work capturing the lived experiences of marginalised faculty “has been produced on the fringes of mainstream quantitative” LIS research.

Whilst not necessarily about LIS faculty, but with ontological relevance for decolonising LIS scholarship through transformative analysis of lived experiences, is the edited collection, *Pushing the Margins: Women of Colour and Intersectionality in LIS* by Chou and Pho (2018) with poignant contributions, amongst others, such as “‘When I Enter’: Black Woman and Disruption of White, Heteronormative Narrative of Librarianship” (Pollock & Haley, 2018) and “‘Sister, You’ve Been on My Mind’: Experiences of Women of Color in the Library and Information Science Profession” (Minter & Chamblee-Smith, 2018). This is one of many exemplars of “powerful and significant work” (Cooke & Kitzie, 2021: 1286) by the marginalised in the LIS academy which provide a “heuristic lens and framework ... to understand ourselves and our experiences” (Chou & Pho, 2018: 4); and, in addition, such ‘lived experiences’ serve as a critical basis for decolonised research that unpacks social reality in the LIS academy as well as in professional sites of practice by privileging the voices of the researched and the marginalised.

Moahi (2020: 248) makes reference to “indigenous epistemology”. The adoption of such epistemology in research, among other things, empowers researched communities by enabling their lived experiences to be articulated through their engaged participation in the research process, thus cultivating a decolonised practice of researching *with* communities as opposed to conducting research *on* communities. Such decolonised research practice would use methods that are participatory, emancipatory and transformative in approach; that enable active participation of researched communities throughout the research process; that recognise community cultural assets; and that allow the researched to communicate from their frame of reference. Such methodological empowering of research participants would also speak to axiological constructs in the research process such as being inclusive of values that enable, in LIS research, respectful representation of both the researcher and the researched; reciprocity in research relationships; recognition of the rights of the researched; self-determination of researched communities; and general fairness and equity in society. Role-play, storytelling, observation, semi- and unstructured-interviewing and ethnography (study of individual cultures), that is, interactive and engaging methods of collecting data from the point of view of the research subject, as opposed to, for example, structured questionnaires which limit understanding of social reality from the frame of reference or worldview of the researched, are relevant for research wishing to enable lived experiences of research subjects to be articulated through their engaged participation in the research process. In articulating lived experiences, empowered researched communities sharing data within a decolonised frame, would be sharing, for example, traditional practices and

rituals, stories, folklore, proverbs, songs, etc. Researchers working in such a decolonised frame need to be able to extract meaning for the research from these lived experiences and cultural assets and learn how to use them “to generate theories, concepts, and questions to guide studies” (Moahi, 2020: 260).

At the same time, Lilley (2018: 80-81), a Māori indigene scholar, cautions about the analysis of data collected on lived experiences from indigenous communities - such analysis, Lilley claims, should be done through a lens that reflects the worldviews of the indigenous community and that it is for this reason that non-indigenous researchers should consider the inclusion of “an indigenous researcher, preferably from the actual community” who

would be invaluable in the process of analysing the data using a lens that is conversant with the values, beliefs, customs, behaviours and knowledge that forms [sic] the core elements of their worldview. This is particularly important when analysing data that has been expressed in an indigenous language Without such a lens or an intimate knowledge of the language ... likely outcomes would be a lack of critical awareness of the cultural nuances of the data, possibly leading to lost opportunities and findings that do not accurately reflect the knowledge that has been shared.

This scenario from a Māori indigenous context in New Zealand resonates with the one from across the globe in the Okavango Delta described earlier in this essay, citing South African scholar Dick’s (2013) lament about the neglect by western scholars of African indigenous knowledge in the analysis of a case of information acquisition by a local African tour guide. These instances, and probably many more in other parts of the world with indigenous and other marginalised communities, reiterate the criticality of what Moahi (2020: 248) refers to as “indigenous epistemology” (and is also a basis of the seminal works of Smith (1999, 2021) and Chilisa (2012, 2020) when using ‘lived experiences’ as a decolonising tool in research for socially responsive and impactful LIS knowledge generation in preparation for appropriate (that is, equally decolonised) scholarly communication.

Axiological observance in research capturing lived experiences of communities is also reflected on by Lilley (2018: 78) who explains that those conducting research with Māori indigenous communities in New Zealand

are expected to be familiar with the specific expectations associated with the Treaty of Waitangi. These relate to participation, protection and partnership, including recognition of the important role that tikanga Māori [Māori culture], cultural values and te reo Māori [Māori language] have in the organisation and transmission of knowledge.

Such guidelines for observing ethical compliance in research involving community participants, explains Lilley, have been developed and are applied by universities, research institutions and funding agencies across New Zealand.

Similarly, Moahi (2020: 260) makes reference to: “Researchers immersed themselves in the Herero community [southern Africa] in order to understand their history, language, philosophy and myths” to research the development of a computer interface for digital documentation of this community’s indigenous knowledge, intentioned to be “intuitive to the local community”. These are but a few exemplars that exist globally of the decolonising role of the axiological construct, emphasising values and ethics, in the application of research to the lived experiences of historically colonised and other marginalised communities.

This sub-section highlighted the transformative potential of ‘lived experiences’ for decolonisation of LIS research, drawing scenarios from the LIS sector in different global locations and reflecting on this in the context of the philosophical constructs of ontology, epistemology, axiology and methodology that inform the research process. Such hermeneutical reflection is intentioned to inform LIS curriculum and pedagogy towards being inclusive of not just transformative scholarly communication but also transformative and decolonised knowledge production in anticipation of appropriate dissemination of scholarship output. While the next sub-section seeks to unpack the role of ‘other ways of knowing’ in decolonising LIS research, the inherent overlap between ‘lived experiences’ and ‘other ways of knowing’ in approaching the decolonisation of LIS research, should be acknowledged – the separation into sub-sections is purely expedient to facilitate systematic presentation.

‘Other ways of knowing’ in LIS research and knowledge production

Other ways of knowing, too, are critical to decolonising research through their hermeneutic engagement with the constructs of ontology, epistemology, axiology and methodology that inform the philosophical assumptions conducive to socially and culturally responsive research. This sub-section too draws from the LIS sector to highlight the transformative strengths of other ways of knowing for LIS research and knowledge production.

Dick (2013: 7) cogently remarks that “there can be no single way of knowing the multiple realities of LIS”. Herein is located the ontological and epistemological value of ‘other ways of knowing’ in its transformative contribution to the decolonisation of LIS research. And it is in this context that Dick questions the production of LIS research models and theories (for example, in information seeking and retrieval) in global north countries and their utilisation in global south localities, where alternative ways of knowing (or constructing realities) in

specific socio-cultural contexts informed by different worldviews and interpretations of social reality, need consideration.

Patin et al. (2020: 2) posit that the LIS field is indeed “guilty of privileging certain knowledge systems and ways of knowing over others”. An example is the bibliographic control tool, Library of Congress Subject Headings (LCSH) which is used for the organisation and discovery of information sources. It was developed in the United States of America (US) and is used globally by libraries for knowledge organisation purposes. As a subject naming system conceptualised in the global north, LCSH reflects, in its naming conventions, dominant western knowledge systems which often results in subject headings for indigenous and other historically marginalised groups that are inaccurately reflected or even, not reflected at all. Sebastian, Youngman and Patin (2022: 72-73) point out that “LCSH aligns with canonical, patriarchal norms in LIS” and that this and other “legacy forms of information seeking, policies and practices” such as cataloguing and classification used in the organisation of knowledge for discovery and findability purposes, “may exclude valuable epistemological systems” and harm other ways of knowing in the process. The LIS field needs the “use of critical practices” (Patin et al., 2021: 632) to “better promote alternative ways of knowing and resisting legacy forms of colonization and epistemicide [devaluing alternative knowledge systems]” (Sebastian, Youngman & Patin, 2022: 80) for transformative advancement of the field, which in turn creates the epistemological space for the application of decoloniality in LIS research methodology.

Dick (1999: 305; 310), in a scholarly piece on the “general neglect of epistemology as a topic of professional and methodological concern” in LIS, observed that the Dewey Decimal Classification Scheme (DDC - a knowledge classification tool used globally to organise collections in libraries), in its final form, was a response to “social rather than epistemological problems”. Dick elaborates that the “original construction of DDC cannot be divorced from its late nineteenth- and early twentieth-century American cultural and intellectual contexts generally dominated by a pragmatist epistemology that advocated its adoption because it worked”. This aligns with Sebastian, Youngman and Patin’s (2022: 72-73) assertion, mentioned earlier, that the LIS field continues to align with western canonical norms. Despite many revisions, DDC, an iconic symbol of LIS scholarship, is still embedded in American cultural and intellectual norms and traditions and continues to be used in localities around the globe where other modes of knowing and constructing social reality abound. This calls for a decolonial approach to research methodology in the LIS field for the ontological and epistemological centering of other knowledge systems and ways of knowing, with a different set of philosophical assumptions, in the research domain of classification of knowledge for its organisation and discoverability in non-western parts of the world.

Jimenez, Vannini and Cox (2023: 226), reflecting on LIS through a global north lens, acknowledge the “privileging of written knowledge over other forms of knowing, particularly oral knowledge”. Colonial contexts which many parts of the global south were historically subjected to, often involved the destruction of local or indigenous knowledge (increasingly being referred to in the literature as ‘epistemicide’ (Patin et al., 2020) – destroying the epistemology or ways of knowing of a knowledge system). The very notion of a library, Jimenez, Vannini and Cox claim, is “strongly connected to a privileging of certain ways of knowing” which historically manifested in Eurocentric knowledge traditions and the colonial replication of such libraries (in content as well as in architectural design) in the global south and culminated in the subjugation of local knowledge systems. Today this also manifests in the scholarly publishing industry which, because of capacity (research, authorship, editing, refereeing, publishing, etc.) concentration and large-scale funding availability in the global north, particularly the US, has eventuated in global north commercial publishers controlling scholarly publishing content as well as knowledge discovery systems; thus giving global north knowledge producers “colossal power to control what is published and so reproduce their own knowledge ... material published outside this system, such as ... in Africa or Latin America, is rendered virtually invisible and unobtainable”. And thus, the ontological and epistemological subjugation of global south knowledge systems and ways of knowing is perpetuated. However, this, at the same time, provides fertile ground for decolonisation of LIS research for the disruption of this perpetuation of dominant ways of knowing and for the privileging of other ways of knowing. It also reinforces the hermeneutical notion (implicit in the research problem which this essay responds to) of considering *what* (knowledge) is produced before *how* (scholarly communication) scholarship is shared.

However, Jimenez, Vannini and Cox (2023: 227) also acknowledge that while libraries tend to privilege written knowledge and other western ways of knowing “much work has been done ... in North America, Australia and New Zealand ... [where there are indigenous communities] through indigenous librarianship to think about the appropriate ways to repatriate indigenous knowledge and cultural creations, or collect, describe, and preserve them, generally through the active involvement of the communities themselves”. Such repatriation of indigenous knowledge in library collections in different parts of the world may be supported by the transformative role of recognition of other ways of knowing in the implementation of decolonisation in LIS research methodology. Further, librarians, by virtue of a fundamental principle of their discipline to make information discoverable and accessible, have naturally been strong champions of the open access movement seeking to disrupt the stranglehold of commercial publishers on the knowledge production and scholarly communication process and its concomitant western biases, including research quality measures using inequitable metrics. Here again, the contributing role of other ways of knowing in challenging colonial legacy infrastructure in the publishing and scholarly

communication domain is critical for hermeneutic engagement with the constructs of ontology, epistemology, axiology and methodology that frame the philosophical assumptions that produce socially responsive and impactful LIS research. As already mentioned, such hermeneutic engagement of ways of knowing in the research process is necessary to challenge the subordination of the knowledge and cultures of communities outside of the hegemonic global north. If left unchallenged in LIS research, and by other opportunities for decolonisation, such knowledge hegemony “gets translated into publications, which mostly benefits research that is connected to the already dominant discourse and systematically excludes different perspectives” (Jimenez, Vannini & Cox, 2023: 234).

In recognising other ways of knowing in research for the production of socially inclusive knowledge, the matter of cultural complexity needs consideration. Indigenous views on information, for example, might not necessarily align with western information norms and conventions. In this context, Williamson, Johanson and Byrne (2018: 550) explain that the “Māori view of archives recognises a spiritual dimension” and that “Māori cultural memory is active and evolving”. Hence information related worldviews are likely to be diverse among different indigenous communities as well as within an indigenous community – “it cannot be assumed that what is appropriate in one setting can simply be applied to another ... In every instance, issues and culturally appropriate approaches will have to be identified and developed in partnership with the communities involved” (Williamson et al., 2018: 550) – the latter point, when conducting community research, is also emphasised by Māori indigene scholars Lilley (2018) and Smith (1999; 2021), both cited earlier in this essay. Ball and Lar-Son (2021: 205; 208), in reflecting on “teaching indigenous LIS” in the Canadian context, also emphasise the need for respectful consideration of unique ways of knowing of indigenous peoples, by making reference to government recognition of “matters that are internal to their communities, integral to their unique cultures, identities, traditions, languages, and institutions, and with respect to their special relationship to their land and their resources”. Such rich and complex cultural diversity from yet another part of the world (and there are many more) serve to demonstrate the transformative ability of ‘other ways of knowing’ in the decolonisation of research methodology, but with due consideration for the “sovereignty, [and] the principle that people should determine who has access to information produced about, by and for their community” (Ball & Lar-Son, 2021: 208-209). The African context, too, offers an exemplar of the transformative potential of alternative ways of knowing or constructing realities in decolonising LIS research. Moahi (2020: 251) epistemologically rationalises that

To understand African reality, one must engage with African culture and ways of knowing and the knowledge of Africa. This means that concepts and theories must be understood from an African perspective, and of course, researchers must be immersed in the African culture to be able to understand it and ask

appropriate questions. It also calls for the research participants to be active collaborators in all aspects of the research.

Deviating from western norms and traditions in research with the incorporation of local knowledge and narratives into the research process as well as active participation by members of the local community, encourages ownership of the outcomes of the research and a community aspiration to work towards sustainability of any interventions resulting from the research. Moahi (2020: 256) argues for a decolonial deviation from the traditional literature review in research and claims that for an African way of knowing and being, “stories, songs, sayings, and folklore”, and not necessarily published journal articles, should be “a source of literature informing research studies”. The collective construction of reality in African research premised on the African philosophy of ‘Ubuntu’ (that emphasises community rather than individuals), prioritises a relational research positionality for purposes of ontologically, epistemologically and methodologically transforming the research process and its philosophical assumptions to align with African realities (including recognition of diversity among African realities); as well as axiological value and ethical imperatives involving respect for community participants, reciprocity in terms of benefits for the community from the outcomes of the research as well as accountability to the researched community.

As with the preceding sub-section, this sub-section too reflected on the transformative potential of, this time, ‘other ways of knowing’ for decolonisation of LIS research, again drawing scenarios from the LIS sector in different global locations and reflecting on this in the context of the philosophical constructs of ontology, epistemology, axiology and methodology that inform the research process. Here too, such hermeneutical reflection is intentioned to inform LIS curriculum and pedagogy towards being inclusive of not just transformative scholarly communication but also transformative and decolonised knowledge production in anticipation of appropriate dissemination of scholarship output.

While the exemplars from the LIS sector as well as global locations are intentionally few but selective, they are instructive in that they serve the purpose of demonstrating how alternative ways of knowing or constructing reality can be used for transformative LIS knowledge production and subsequent communication of scholarship output.

Conclusion and recommendation

This essay began with the objective of unpacking the concepts of ‘lived experiences’ and ‘other ways of knowing’ to better understand their role in transformative LIS knowledge production for purposes of LIS curriculum realignment. This was in response to the focus of this section of the edited volume to critically engage the place of scholarly communication in LIS curricula towards growing the next generation of scholarly communication leaders. At the outset it was mentioned that this essay deviates somewhat from the focus on how scholars share their output with their academic and other communities (that is, the process of scholarly communication) and instead focuses on the scholarly output itself and how this should embrace the decolonisation concepts of ‘lived experiences’ and ‘other ways of knowing’ to produce socially responsive and impactful scholarly output in anticipation of equitable scholarly communication – both aspects are necessary for the advancement of social justice through the nuancing of LIS pedagogy with embedding across the curriculum the transformative role of ‘lived experiences’ and ‘other ways of knowing’ in knowledge generation and its equitable dissemination, as outlined in the research problem identified at the beginning of this essay. It is recommended that the unpacking, in this essay, of the transformative potential of ‘lived experiences’ and ‘other ways of knowing’ in a context of real-world scenarios from the LIS sector in different global locations as well as a hermeneutical reflection of the philosophical constructs of ontology, epistemology, axiology and methodology that inform the philosophical assumptions which guide socially responsive and impactful research, be considered in LIS curriculum design and development for purposes of preparing the next generation of LIS professional practitioners, educators and researchers deeply committed to both transformative knowledge production as well as equitable scholarly communication of knowledge output – thus reiterating the note on which this essay began: *what* knowledge is produced is as important, if not perhaps more important, than *how* it is communicated to the wider world; and offering an important heuristic lens for advancing social justice through LIS curriculum realignment.

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SECTION B

**Scholarly
communication,
decolonisation and LIS
education**

Scholarly Communication as A Tool for Furthering Social Justice

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Abstract

Making information available and sharing it are core values of the Library and Information Science (LIS) profession. Disseminating knowledge for more equitable and inclusive academic ecosystems is an excellent springboard from which to connect social justice principles with scholarly communication. The Budapest Open Access Initiative tied together social justice and technology for knowledge sharing as a public good. Open access publishing has promised greater equity by making research freely accessible; however, equitable access is not guaranteed by simply removing pricing and permission barriers. Current practices in scholarly communication reflect systemic inequalities that reinforce existing power structures and sustain the knowledge gap between the haves and the have-nots. Greater awareness of these inequalities can help break down traditional gatekeeping practices. Embedding social justice training in LIS education offers students a different lens to move the discussion beyond pricing and affordability of scholarly communication. This essay is based on secondary sources and personal communication to highlight scholarly communication training as a natural avenue to advance social justice principles. Academic librarianship practice is evolving to address these issues. Collaborating with academic libraries offers LIS students a practical lens to be active participants in centering social justice in scholarly communication to address these inequalities.

Keywords: social justice, scholarly communication, open access, LIS education, academic libraries.

Introduction

The LIS profession has a longstanding commitment to diversity, equity, and inclusion. However, translating that professional commitment into LIS education has been hampered by difficulties in addressing sensitive or uncomfortable topics; structural impediments due to policies (passive); or resistance to changes (active), among others (Mehra, 2021). Meanwhile, global awareness of issues including social justice, anti-racism, diversity,

and equity is on the rise. Because we address these sensitive topics frequently in our professional lives, we should ensure that LIS curricula are structured using social justice principles to equip rising professionals for success. This requires adapting LIS practices to focus on inclusion, access, respectful relationships, and community building to train culturally competent and socially responsible LIS professionals. Scholarly communication in its current form offers an excellent opportunity to introduce social justice principles in LIS education.

Academic librarianship practice is evolving to address these issues already. Scholarly communication is central to the functioning of academic libraries and open access (OA) provided a strategy that tied together social justice and technology for knowledge sharing as a public good (BOAI, 2002). Open access principles include addressing local, national and global challenges that reflect socio-economic disparities, colonialism, transnational bias, race, inclusion and access. Despite its promise of greater equity, OA publishing does not guarantee equitable access by simply removing pricing and permission barriers. Scholars, especially in the Global South, are significantly hampered by tangible and intangible barriers to accessing information or to contributing to scholarly publishing or to sharing their research. Instead of democratizing access to information, OA seems to reinforce and create new inequalities (Nkoudou, 2020). Prohibitive author processing fees set by publishers, the exclusion of research from historically underrepresented communities and the Global South, language barriers and the lack of reward systems for open scholarship are just a few examples of the existing unfairness in the scholarly publishing ecosystem. Scholars face paywalls when their academic libraries can no longer subscribe to the high-priced academic journals that support their research and teaching, leaving them out in the cold or using platforms such as Sci-Hub, a shadow library website that provides free access to millions of research papers, regardless of copyright. Simply put, OA has been subverted from its original intent and repurposed to benefit a handful of powerful publishers that work to keep the Global North and Euro-centric perspectives up front.

These inequities in scholarly communication have deep implications for social justice concerns. For this reason, the LIS classroom is an ideal place to introduce students and emerging professionals to the core values associated with social responsibility. However, LIS education on the practices of scholarly communication and translating it as social justice is lacking. Incoming LIS students are hungry for formal education in both. Grassroots efforts are underway as I will show, but we need to bring both scholarly communication and social justice to LIS education because these are real-world problems librarians are already facing. Embedding social justice in LIS education will prepare and equip students with greater awareness of the inequalities in scholarly communication to help break down traditional gatekeeping practices, challenge the status quo and advocate for the rights of marginalized

groups to contribute to and benefit from scientific and academic advancements.

Research problem

The term social justice includes a wide variety of social goals and encompasses a range of concepts. At its core, it is about equal rights, equal opportunities, and equal treatment to ensure fairness and equity for all members of society to live with dignity and respect. In the context of scholarly communication, social justice is about recognizing and protecting access to information as a fundamental human right, a core value of libraries. Gray (2018) describes her LIS training where the value of collections, literacy instruction, privacy, and the digital universe was prioritized. Despite the undercurrents of social justice issues in the profession, explicit theoretical foundations of social justice, its meaning and how it contributes to library practice, were missing in her courses. For this reason, she values social justice teaching-centered scholarship to equip herself with tips and tools to embed social justice training in her own teaching.

Where social justice courses are present, students are asking for more, especially within a turbulent and politically charged cultural fabric. For example, a group of student advocates of social justice expressed a strong preference for praxis that highlights a more progressive form of librarianship training that addresses social justice issues. They want to embrace the political components of the profession and want to be well equipped with the theory and practice of social justice in their training before they enter the workforce (Helkenberg et al., 2018). Students who took social justice training describe the impact as transformational. Batiste (2024) acknowledges the value of social justice training in his LIS program which equipped him with critical thinking skills that helped him evaluate how systemic barriers affect access to information. His training in social justice also prepared him to challenge everyday library systems that hinder diversity, equity and inclusion in the scholarly ecosystem. This critical perspective led him to take practical steps to formulate inclusive strategies to meet the diverse needs of his library users.

Scholarly communication is a relatively new and fast developing field in LIS praxis and is central to the work of libraries. As proponents of open scholarship, libraries have taken the lead on innovative approaches to address costly inequalities in scholarly communication. In addressing these costly inequities, academic libraries have developed institutional repositories and invested in tools to capture the research output of a given institution (e.g. green OA), supported low cost and OA journals (e.g. diamond OA) that provide direct alternatives to high priced commercial titles. Libraries are also leading open educational initiatives to support the growing demand for open educational resources (OER). At the heart of the OER movement is the intention to provide affordable access to education and to address structural inequities found throughout academia and scholarly publishing.

Despite libraries' significant investments and initiatives in scholarly communication there is a stark disconnect between LIS praxis and LIS education around this topic. As such LIS graduates feel underprepared for the rapidly evolving responsibilities in the scholarly communication job market. Bonn et al. (2020) found that few practicing scholarly communication professionals feel well-prepared by their graduate training and are themselves deploying continuing professional development strategies to fill the gap.

Objective

Improving education around scholarly communication and OA in LIS education and LIS praxis provides a natural avenue to advance social justice principles.

Literature review

A growing body of literature addresses the intersection of the principles of social justice and scholarly communication.

Raju et al. (2023) and Raju and Badrudeen (2021) use a social justice framework to anchor and advance OA principles for knowledge sharing. Roh et al. (2020) focus on a radical vision of scholarly communication as a series of material practices that could be constructed otherwise -- rooted in addressing equity and justice rather than colonization and dominance. Nakamura et al. (2023) note the lack of change in neocolonial practices in academia after two decades of OA while Baildon (2016) offers recommendations to address the euro-centric bias in scholarly communication and in higher education in general. Ameen (2020) decries academic librarianship's bias towards a Eurocentric, class-based system that dismisses scholarship that ventures beyond dominant intellectual traditions. Cooke et al. (2016) extend a call to action to LIS educators to use social justice principles to move students from mere awareness and acknowledgement of inequalities to actively work towards betterment, equality and respect for those we want to include.

Relevant concepts

Social justice in LIS

Definitions of social justice vary in wording, but several LIS scholars and practitioners provide precise concepts of social justice. These concepts provide an understanding of how LIS professionals and scholars are using the idea of social justice in their work. For example, Morales et al. (2014) focus on "the ability of all people to fully benefit from social and economic progress to participate equally in democratic societies" (p.440). Mehra et al. (2010) explored the intersection of libraries, information science, and social justice and how libraries can be agents of social change to ensure that everyone, regardless of background or circumstance, has equal access to information.

They define a socially just society as one where “individuals and groups are treated fairly and receive an equitable share of all the benefits in society” (p. 4820).

Scholarly communication

Scholarly communication is a relatively new discipline in LIS and is defined as “the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for the future” (ACRL, 2003). It is central to the functioning of academic libraries and requires an understanding of the publishing landscape, a key element of scholarly communication. Scholarly publishing is a complex industry involving many stakeholders with a variety of practices that have resulted in persistent disparities that have been well documented.

Open access

Open access provides a much-needed alternative to the dysfunctions of the economics of the current publishing system. Conceived as a statement of principle and commitment to provide equal access to scholarly information as a public good for all, OA is not an end unto itself but a means to other ends, above all, to the equity, quality, usability, and sustainability of research (BOAI20).

Open educational resources

Open educational resources (OERs) exist within the larger context of scholarly communications to support teaching where teachers and faculty impart knowledge to learners and students. The idea behind OERs is simple but powerful – teaching, learning and research resources that reside in the public domain or have been made freely and legally available under an intellectual property license that permit their free use and repurposing by others. At the heart of the OER movement is the intention to provide affordable access to education and to address structural inequities found throughout academia and scholarly publishing. Cooke and Trotter (2018) describe this imperative as a desire to provide a culturally sensitive education in a manner consistent with social justice that focuses on the need for parity of participation in education or inclusion.

Discussion

Social justice in LIS and training

This overview of social justice in LIS programs focuses on documented sources in North America where the American Library Association (ALA) accredits LIS programs. Despite the undercurrents of social justice issues in LIS, content about diversity, equity and inclusion is practically invisible in LIS training. Jones (2020) surveyed ten LIS programs in north America and found that only four of the ten mentioned the terms diversity, community,

citizenship, equity, or access and offered ways that future graduates might build community and benefit society. The other six schools focused solely on the technological aspects of librarianship, career prospects of the program, or classroom experience. He also found a lack of OA course descriptions and a shortage of integration in required courses that offered very limited opportunities for prospective students to seek social justice training. When offered, social justice issues were only moderately discussed across the LIS curriculum and most often offered as an elective, not a required course. That position of marginality has changed recently when the American Library Association (ALA) officially acknowledged the growing and changing complexity of our global society. In 2023 ALA expanded its scope of accreditation standards to include equity, diversity, inclusion and social justice with regards to information and its use (ALA, 2023). It is too soon to assess the impact of that change or how social justice will be included in LIS programs. However, it is a step in the right direction to address students' concerns and needs for social justice training to prepare them for the realities of LIS praxis. Students want topics such as indigenization, decolonization, the digital divide, bias, commodification of information and privilege, all of which intersect with social justice principles in scholarly communication. These topics offer opportunities for classroom discussion to understand, challenge or disrupt Global North bias, the current colonial systems of knowledge distribution, the cost of access to information, and the lack of access to digital systems and participation (Helkenberg et al., 2018).

The lack of social justice courses is further exacerbated by the lack of social justice teaching-centered scholarship that is imperative to attract and prepare future LIS professionals with strong social justice agendas. Fortunately, a growing body of literature is emerging to embed a social justice framework in LIS training, e.g. Mehra (2022), Cooke and Sweeney (2018) and Cooke et al. (2016). Their work is based on practical examples of approaches at a few LIS programs. For example, Mehra (2021) uses social justice design to implement innovative pedagogies and reflective practices to transform LIS education. His courses focus on training students to learn new modes of community-engaged scholarship by venturing outside their academic comfort zones. Students are encouraged to identify the application of information-communication work to serve community partners. He nudges students to immerse themselves in embedded contexts to identify possible concrete solutions with or for external stakeholders. The goal is to support students in developing a critical analysis of existing realities and challenges and to propose initiatives that their collaborating agencies can adopt. Cooke et al. (2016) focus on using social justice as a topic and tool that requires a blended approach that extends across LIS curricula, professional practice and research to train culturally competent and socially responsible library professionals. Components of this blended approach include developing students' ability to critically reflect on the role of information technologies and institutions in society and their own positionality and privilege that shape their practice. Their work offers a practical guide to introducing social justice

as a topic that can help unpack the issues of inequity in scholarly communication. These examples offer some creative ways to embed social justice training in LIS programs that can be extended for other purposes e.g. archival studies. Buck and Valentino (2018) took a practical approach by developing a social justice course on OER, highlighting the potential for these courses to create future advocates for OA.

All the aforementioned LIS faculty acknowledge the unique problems and challenges of embedding social justice across the program vs. a structured traditional approach to the LIS curriculum. Notwithstanding these challenges, Rioux (2010) warns that student engagement is key to social justice outcomes and the effectiveness of the LIS profession to prepare students for a politically charged ecosystem.

Scholarly communication

Libraries play a crucial role in the scholarly communication lifecycle and have quickly developed a set of core competencies to support access to resources, research and to facilitate the dissemination of knowledge to the wider community. As early proponents of OA, libraries have taken the lead in innovative approaches to address costly inequalities in scholarly communication. To enable this work, libraries created systems and platforms that enable their users to have free access to the information they need for learning, growth, and empowerment, regardless of technology, format, or delivery methods (ALA, 2024). In addressing these inequities, academic libraries have developed multiple strategies at the local, national and international level. At the local level, libraries have invested in institutional repositories to capture the research output of a given institution, known as green OA and many are hosting low-cost OA journals, e.g. diamond OA, that provide direct alternatives to high priced commercial titles. The University of Cape Town Libraries went one step further and developed a community-based publishing alternative for Africa. Grounded in social justice principles, the publishing platform was launched to help Africans take charge of their own knowledge, where knowledge is free to access for the reader and authors don't have to pay to publish (Raju, 2021).

Academic libraries have also invested in dedicated professional positions to support the growing demand for scholarly communication. However, despite this fast-growing subfield in LIS many practicing scholarly communication librarians say they lack the training necessary and feel ill-prepared to do the work (Bonn et al., 2020). This lack of scholarly communication training does not align with libraries' significant investments over two decades to develop the infrastructure and expertise they need to support scholarly communication.

Kingsley (2017) notes the difficulty of engaging LIS schools in the UK on the issue of scholarly communication, and Raju (2019) observed that LIS schools' curricula in South Africa did not seem to keep pace with new and emerging trends in scholarly communication. Accredited LIS programs in North America tend to present themselves as information schools with specialized sub-disciplines, but scholarly communication is sorely lacking. Hollister's research in 2017 highlights the growing importance of scholarly communication in academic libraries. His study surveyed LIS students who took scholarly communication courses and found that a majority considered scholarly communication relevant to their career goals. This suggests that integrating scholarly communication into LIS curricula could better prepare students for emerging roles in academic libraries. However, his survey found that only 15% (9 of 59) of ALA-accredited programs appeared to include scholarly communication courses. A few years later Tmava (2022) also emphasized the need for LIS programs given the increasing demand for librarians with scholarly communication skills and found that only 6 out of 48 ALA accredited programs offer a course in scholarly communication.

These perceptions may be slightly skewed since topics in scholarly communication may be hidden behind other course titles, but the trend is clear. Then and now, LIS programs may not be preparing new LIS professionals with the background and critical lens to effect change in scholarly communication. An Institute of Museums and Library Services (IMLS) funded study found a key reason for the gap between LIS training and LIS praxis: a lack of communication between LIS practitioners and LIS faculty (Sands et al., 2018). In addition, LIS programs do not have full-time LIS faculty to teach the courses which exacerbates the problem at a time when there is high interest in this work. Bonn et al. (2023) warn that the lack of preparation in LIS programs has implications for the future of both LIS programs and the LIS profession to build capacity and leadership to effect change in scholarly communication. Students are hungry to do this work yet LIS programs graduate students without the necessary preparation and competencies for a rapidly evolving subdiscipline. This lack of LIS instruction further perpetuates the growth of inadequate preparation for new LIS professionals in scholarly communication leaving academic libraries as key stakeholders in providing substantial support for education and training. To address this gap, Bonn et al. (2020) proposed several strategies to expand scholarly communication topics in LIS instruction including their newly published introductory level textbook *Scholarly communication librarianship and open knowledge* (Bonn et al., 2023) "that may serve as a cornerstone in formal LIS scholarly communication topic instruction..." (p. 14). While on-the-job training is a common feature of employment, LIS programs have a responsibility to ensure students graduate with the necessary preparation for this work.

Since LIS practitioners have a better understanding of the issues in scholarly publishing, it may be time to bring LIS praxis into LIS education to give students a better understanding of the issues in scholarly publishing, how libraries work to address the inequities, as well as new and emerging trends in the field. LIS practitioners can help identify and create opportunities in scholarly communication to collaborate, create and curate relevant content, including social justice for both continuing education as well as adoption within LIS curricula.

So how do libraries help foster a truly global scholarly communication system founded on equitable knowledge exchange? First, understanding the publishing landscape is a key element to prepare early career librarians for this fast-evolving role in libraries. Academic librarians can help demystify the process of publishing in LIS practice. Why does it matter? Despite its intent for equal access as a public good, OA publishing includes costs associated with article processing charges (APCs) for OA journals, which affect the ability of scholars to publish in OA journals. Since most publishers do not provide publishing cost waivers for developing countries, OA is a privilege for Global North researchers. The cost of publishing is prohibitive even where waivers are provided, excluding many researchers from participating in more globalized publishing venues (Nakamura et al., 2023). Using a social justice framework LIS students working with scholarly communication librarians will have practical opportunities to learn more about library publishing as a strategy to help offset author fees for researchers.

Second, libraries are the nexus on campus to collect knowledge produced from around the world and to disseminate knowledge produced on campus around the world. As such, they work with content outside the scope of traditional publishing. Students and researchers are exposed to the science produced by the Global North in their curricula, textbooks, and articles, providing them with a limited overview of potential solutions to global problems. What can libraries offer? Academic libraries are committed to visibility and access to all scholarship. Their efforts to promote a more inclusive global scholarship system include website links to authors or journals from the Global South, e.g. Scientific Electronic Library Online (SciELO) in South America, African Journals Online (AJOL) in Africa, and South Asia Open Archives, to name a few. By being aware of these resources, LIS students can help amplify sources or information from the Global South to increase the understanding of contextual environmental and socioeconomic factors affecting the research results.

Third, as liaisons, librarians work closely with scholars and students to advocate for maximum openness and visibility of all scholarship in the scholarly communication ecosystem. As hosts of OA journals libraries can leverage their institutional and library stated values to align expectations for their hosted journals with social justice principles of diversity, equity, and contribution (Roh, 2016).

Why does it matter? Increasing the participation of historically excluded groups on editorial boards will help amplify different points of view with diverse backgrounds and perspectives. What can libraries do? They can raise awareness with scholars who might value diversity but might not have previously considered its importance in publishing (Roh, 2016). In doing so, libraries could request journals to consider the demographics of their contributors and editorial boards as a prerequisite for library publishing. Library publishing allows new voices into the scholarly ecosystem through collection development and digitized collections. They also expand access through links to promote scholarship from the Global South, e.g. AJOL and SciELO, that supports OA research communication in Latin America. In this way libraries offer solutions to reduce the language barriers for non-native English-speaking authors to scientific publication.

Open access

Open access has coincided with the development of alternative scholarly communication platforms such as Knowledge Unlatched, Open Library of Humanities, Luminos Open Access, and Open Journal Systems. These platforms offer libraries an opportunity to push back against the biased systems of scholarly communication. For this reason, library publishing has emerged as a natural extension of their role as information disseminators to address the failures and inequities in the current publishing ecosystem. Library publishing began as a “natural outgrowth of and corollary to libraries’ investment in scholarly communication, digital scholarship, and data management services, among others,” and its “emergence...can be directly correlated with perceived failures of and inequities in the contemporary scholarly publishing ecosystem” (Lippincott 2017, p.6). Supported by the Library Publishing Coalition and guided by an ethical framework anchored in social justice principles, library publishing is distinctive from other types of scholarly publishing. For example, they support publications that might not otherwise have a voice and allow new voices to find their way into disciplinary conversations, reach new audiences, both academic and public. Library publishing has the potential to impact existing and emerging fields of scholarship and practice in a transformative way. Towards that end, libraries have embraced the Open Journal System (OJS) as an end-to-end scholarly publishing platform to launch new OA journals e.g. *Ars Inveniendi Analytica*, at the University of Texas Libraries, a top-level journal in mathematical analysis that minimizes operating costs with no fees to either readers or authors. The annual cost to run the journal is less than a single author processing charge at some commercial publishers.

Despite libraries’ role in promoting OA, faculty still lack an understanding of the potential roles and changing visions of scholarly communication that includes advocacy for openness. Libraries promote OA in a variety of ways including institutional repositories, catalog records for OA journals and electronic journal lists, to name a few.

New initiatives such as collaboration between libraries and university presses are now more prevalent in publishing OA journals, open monographs, conference proceedings and large-scale digitization of their published collections. Massachusetts Institute of Technology (MIT) Press's Direct to Open (D2O), a diamond OA publishing model, is a gamechanger that levels the field for authors and readers while bringing vital research to communities that need it most (The MIT Press, 2024). New library services such as author/publisher rights determination, hosting open access journals, and exploring new forms of scholarly products, e.g. OERs have expanded and are becoming mainstream activities in libraries. These new and dynamic library roles offer an opportunity for LIS programs to impart a deeper knowledge of the life cycle of scholarship, the environment in which it is created and an understanding of the impact of the inequities in access to the information along with the tools necessary to use that information. Understanding the impact of these disparities is where social justice training is helpful to equip students with a critical lens revealing e.g. what happens when researchers do not have access to the full range of possible research that includes research on sustainable economic, social and political developments. Or, how faculty are impacted when they are not being published when their careers are at stake because publication is central to tenure and promotion.

Embedding social justice in LIS also provides a tool to reflect on library publishing. Are libraries perpetuating the biases and power structures of traditional scholarly publishing or are they using library publishing to interrogate, educate and establish more equitable models of scholarly communication? (Roh, 2016). This work is challenging as reflected in a personal conversation with the editor of a diamond OA journal who acknowledges the Global North bias in scholarly publishing yet feels challenged to select essays for scholarly publishing that lack the rigor and currency of research required for the journal. To fully realize the promise of OA, LIS professionals need to be mindful of policies and practices that may create new barriers for scholars to access or contribute to the scholarly record. The danger of focusing on access but not participation only facilitates the current and inequitable one-way scholarly exchange from the Global North to the Global South. The lack of representation affects not only the diversity of scholarship that is produced and made available; it has the potential for the loss of voices that are not represented in the scholarly record and erasure from knowledge systems at large (Roh et al., 2020). Open access is not perfect but it remains a powerful tool for libraries to address information privilege in scholarly communication and to consider those who may be left behind.

Open educational resources

Open educational resources are rooted in social justice principles and are consistent with scholarly communication practice to support access to information in research, teaching and learning. Access to education is key to economic, social and environmental progress

and OER offers the ability to improve and diversify educational opportunities for all. This idea aligns with the United Nations Educational Scientific and Cultural Organization's (UNESCO) sustainability goal *Education for all* (Sustainable Development Goal #4) to ensure inclusive and equitable quality education and to promote lifelong learning for all. For years research on OER focused on cost-savings for students but there is a growing body of literature that elevates social justice as a framework to study additional benefits of OER, especially for minority and underrepresented students. For example, Ivory and Pashia (2022) explore the opportunities and challenges of moving the discussion about OER beyond affordability to address the structural inequities found throughout academic and scholarly publishing.

OER are more than free access to learning resources; they create equity, accessibility, parity of participation and offer customization to develop inclusive textbooks. As such they should not replicate the commercial textbook and its inequities. The good news is that faculty have grown more confident in moving away from traditional textbooks that reflect a commitment to providing low-cost or no-cost course materials, thereby reducing financial barriers and promoting equitable access. They are also adopting new pedagogies that leverage technology such as flipped classrooms and blended learning modules. While faculty have grown more confident with using OER in their courses, they are more likely to integrate instructional video and publisher prepared modules. Only a small percentage are creating their own OER (Love & Blankenstein, 2024).

Academic libraries play a key role in supporting OER initiatives as reflected in the recent emergence of a dedicated position to support OER through adoption and creation and to build, publish and maintain an OER platform (Tang & Tseng, 2023). Libraries are often the sole supporters of OER on campus due to the lack of recognition of this work in faculty promotion and tenure processes. For this reason, many OER programs at universities and colleges are launched from the "bottom" and driven by libraries and faculty rather than the administration. Interested faculty usually seek guidance from librarians and value their expertise in authoring or adopting OER with innovative and inclusive content to enhance students' learning experiences. As a result, libraries have embraced new technologies, tools and strategies to support the creation or adoption and use of OERs. While adoption of OER has been slow, there is evidence of growing demand from faculty who need OER support (Love & Blankenstein, 2024).

Libraries support OER through faculty fellowships/grants, expertise and publishing infrastructure. An open education fellowship is a stipend-supported program usually sponsored by the library. At the University of Texas faculty can apply for fellowships which

provide direct librarian-led support in authoring or adopting OERs. In turn, selected faculty commit to making at least one of their courses entirely cost-free in terms of course materials.

While academic libraries have embraced this ideal and strongly support faculty in creating and disseminating OER the current focus is mainly on social justice as access, that is, lowering the cost of textbooks to provide equitable access to all students. A key reason for this is that educators are not aware of how to implement OER and open educational practices with equity in mind creating an opportunity for LIS programs to fill an obvious gap in LIS training (Katz & Van Allen, 2022). Embedding social justice in LIS programs to study and understand these scholarly communication topics seems ideal to prepare LIS students as bystander activists in LIS practice. By leveraging the expertise of OER practitioners in LIS courses will provide students with pragmatic examples of how social justice principles intersect with this work to create new equitable learning experiences. For example, working with faculty, OER librarians can center marginalized perspectives when they identify and co-create OER. By engaging with students and faculty as co-creators OER librarians can help transform the creation of course materials and address social injustice in the classroom. For example, Seiferle-Valencia (2020) engaged graduate students in identifying no-cost, culturally competent materials to support students for whom English is a second language. Another student used bilingual captions on YouTube videos to increase content. Co-creating content with students as partners gives them agency in the development of the process and an opportunity to contribute equally in OER production. Lambert and Fadel (2022) piloted a process of collaborating with the library to convert required texts in 100-level units of a high-enrolment course to OER giving all students equal access to learning materials on day one. Buck and Valentino (2018) created an engaging course to help students understand how scholarly information is created and, more importantly, how it affects their lives and society at large. As more educators begin to focus on the social justice aspects of OER it is imperative for LIS programs to equip graduates with the skills to navigate their roles in contemporary social issues.

These practical steps address inequities that align with social justice principles of inclusion, access and parity of participation. However, publishers are pushing a new business model to reduce textbook costs: inclusive textbook billing. Their stated goal is to reduce textbook costs but their strategies to achieve that goal are starkly different and noteworthy for its lack of social justice principles. Publishers have turned the COVID-19 crisis into an opportunity to focus on digital courseware making it attractive for university administrators who want to reduce the costs of textbooks for their students.

With automatic opt-in to access the material on day one, students are effectively subject to the publisher's terms and textbook costs are added to their tuition and fee bill unless they choose to opt out. It is clear to see how publishers benefit from this business model, but it can exclude students who are in the most critical need (SPARC). These competing realities exist on many campuses where university administrations prioritize automatic textbook billing programs over OER. As with any innovation, OER faces a number of challenges. For faculty the most pressing is the question of quality and the daunting task of sifting through high quality material. For librarians, adopting and promoting OER is contingent on knowledge, skills and appreciation of these resources to increase their likelihood of adoption, creating an undeniable opportunity for LIS programs to embed social justice principles.

Conclusion

Scholarly communication literacy is a core competency for academic librarians to support this fast-growing field and social justice provides a critical lens to address the inequalities in the current scholarly publishing system. The present disconnect between LIS training and LIS praxis leaves graduates ill-prepared to address professional demands and calls for expansion of LIS education and training to realign its curricula with the current climate and needs of the academic community. That expansion can and should be undertaken by both LIS programs and libraries, failing which will have significant implications for both to build capacity and leadership to effect change in scholarly communication.

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Investigating, Writing and Teaching Social Justice Themes in Library and Information Studies

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Abstract

As a social scientific discipline, Library and Information Studies (LIS) connect with other information service-oriented professions, and fields of investigation. Its curricula and research publications include topics and themes connected to the everyday information lives of people, communities, and organizations. To effectively design and deliver appropriate library and information services, social justice should feature prominently too in its pedagogies and practices, as well as its conference programmes, journals and other writings. Social justice research and literature emerge in varied formulations, and under different guises. A challenge is how to give its topics and themes local relevance, and meaningful application. This essay emphasises the importance of investigating, teaching, writing and publishing about social justice themes. Two case studies from South Africa's library and information sector discuss the social justice concepts of decolonisation and whistleblowing. Arguments about decolonising library collections shaped by racial prejudice in the 'old' South Africa are reviewed. And the challenges that a whistleblower for information justice faced in the 'new' South Africa are deconstructed. The essay recommends fuller investigation and reliable documentation for teaching and publication of its themes and lessons.

Keywords: decolonisation, library and information studies, research, social justice, teaching, whistleblowing.

Introduction

For their meaningful impact, global concepts, projects and programmes should be locally relevant. The United Nations' *Sustainable Development Goals* (SDG Resource Centre, 2024) and UNESCO's *Information for All Programme* (African Centre 2018, p. 31) feature among noble initiatives for social justice, and for peaceful and prosperous coexistence within and among the world's nations. What cannot be overlooked is how past events in their countries continue to shape present challenges. Nor can the nebulous nature of social justice in its several forms and labels be ignored in contexts where and when they are discussed and applied.

In the United States, for example, Alabama State's *Southern Poverty Law Centre* (Teaching Tolerance, 2018) constructed an anti-bias framework to teach tolerance as a way of challenging social injustice.

That framework prescribed learning outcomes and standards, and its domains included identity, diversity, justice, and action. Among its elements and principles were access to resources, equity, participation, and human rights. A few years later another framework for curriculum redesign, elsewhere in the United States, added inclusion and fairness in education (Van Damme, 2022). And far away in Maribyrnong, an inner-city Melbourne suburb in Australia, a 'social justice' framework for 2023-2033 lists equity, inclusion and resilience as its goals (Maribyrnong City Council, 2022). Recent frameworks across countries, and for different professions and purposes, include similarly desired outcomes, but they do not necessarily share the same elements, and principles.

As an applied social scientific discipline Library and Information Studies (*LIS*), which connects with information service-oriented professions and sectors, embrace related domains, principles and values. Its curricula include aims, themes, and strategies that target the everyday information lives of people, communities, and organizations. In order to design and deliver effective and appropriate information services, social justice topics and themes should feature as staple items. Their presence should be prominent too in *LIS* pedagogies, research practices and literature, as well as its conferences, seminars, workshops, and programmes focused on community engagement.

In that way, students and teachers, as well as researchers and the general public readership of its literature and reports *et cetera* would have wider access to these topics and themes. That will embed an understanding of the concept and principles of social justice in a *LIS* disciplinary framework.

Research problem

Although such a framework would be helpful across the types of libraries, and transferable to and from other information sector agencies such as archives and museums, its special features and challenges should be addressed. There are social injustice shifts and it is not the same everywhere, nor ever-present. History matters, and conditions and circumstances change over time across the world's regions, countries, cities and suburbs. Social justice in *LIS* curricula should therefore emphasise topics and themes of compelling community interest to engage both the past and present through investigation, writing, teaching, as well as in-service training in preparation for practice. Another important challenge is that, although not explicitly identified or labelled as such, social justice themes are not entirely new.

They have already featured in the *LIS* literature under different guises and in related formulations.

Over two decades ago the authors of an article in the *South African Journal of Library and Information Science* discussed ‘Information Poverty and Information Justice’. Johannes Britz and James Blignaut had developed a ‘moral framework’, based on social justice. They identified problems and possible solutions for what they formulated as ‘information poverty’, which was understood as the inability to access information. They argued that equality in the right of access to information is necessary for development. And that:

“... certain inequalities in the different social and economic activities should be to everybody’s advantage and based on equal opportunities” (Britz & Blignaut, 2001, p. 68).

That is one example of how social justice and social injustice had already, both implicitly and directly, featured in South African *LIS* literature. Ideas about social justice were prominent too in discussion about the *LIS Transformation Charter* (2014) that had been formulated subsequently for the ‘new’ South Africa.

Reflecting on the “politics, processes, and promises” of that *Charter*, two of its authors had characterised libraries as the “Cornerstones of Democracy” (Hart & Nassimbeni, 2016). They elaborated Britz’s (2004) subsequent moral reflection on information poverty, and explained that:

“The social injustice of information poverty cuts off certain groups from the social and economic mainstream, reducing them to the status of second-class citizens” (Hart & Nassimbeni, 2016, p. 201).

Britz returned to the idea of social justice in 2021 in a book essay sub-titled: “A reflection on President Mandela’s inaugural address from a social justice perspective”. He argued that this inaugural address in 1994 was the most important in the country’s history. He also discussed core moral principles – human dignity, basic rights and fundamental freedom - that social justice represents, and argued that Nelson Mandela had:

“... used social justice as the key moral tool for building a new South Africa – not only in terms of our freedom, dignity and human rights, but also with regards to reconciliation and transformation” (Britz, 2021, p. 27).

Missing in that argument is that social injustice in South Africa was deeply rooted in the country’s longer history of colonial injustice, and entrenched in the policy of apartheid to deepen political and economic injustice. The *Department of Agriculture, Land Reform*

and Rural Development is, for example, still addressing the colonial injustice of land dispossession through the *Native Lands Act* in 1913. It had led to poverty among South Africa's indigenous people. It also entrenched racial segregation that had lasting social and economic effects (Media statement, 2024). Government legislation had compelled all to comply, whether fair or unfair. Some scholars have argued that apartheid itself was '*colonialism of a special type*', in which the oppressed people and their oppressors occupied the same territory (African National Congress, 1980).

Racial policy and legislation enacted in the country's apartheid era (1948-1994) had in effect entrenched the already-unequal library and information services during the Dutch (1652-1795), British (1795-1910), Union (1910-1961) and Republic (1961-1994) periods. Reaction to these acts of political and economic injustice included social justice initiatives that steadily galvanised resistance. They included informal efforts and organised campaigns for equality of library and information access, as well as other strategies (Dick, 2012; 2020). Undoing this shameful legacy of library and information injustice for a 'new' Republic of South Africa requires comprehensive and sustained engagements with social justice themes and programmes. Their aims should emphasise equality of opportunities, and their strategies should set right past and present LIS injustices.

Objectives

The objectives of this essay are:

- to review early and recent sources dealing with social justice and LIS in South Africa;
- to discuss case studies of *decolonisation and whistleblowing* as examples to understand social justice (for community engagement) in LIS; and
- to share experiences of investigating, teaching and producing relevant literature and scholarly communication on social justice themes in the LIS curriculum.

Literature review

The literature of social justice traverses several academic disciplines. It also adapts over time, and across countries. In their argument for 'inclusion as social justice' in South African education, the researchers Ellison Musara, Carolyn Grant and Jo-Anne Vorster (2021) drew on American Nancy Fraser's earlier work. She had explained that whereas social justice discourse had focused initially on distribution, it subsequently emphasised "claims for redistribution on the one hand, and claims for recognition on the other" (Fraser, 1996, p.4). That approach urged both care and caution when applying concepts like 'social justice' across time and place. Musara, Grant and Vorster (2021, p.1) subsequently explain that "the meaning of inclusion and social justice is still widely contested despite the seeming global acceptance of these educational reforms in most nations".

Importantly, South Africa's *Truth and Reconciliation Commission* (1995-2002) had represented *restorative* rather than *retributive* justice to facilitate political change (McLeod, 2015). That approach had required the "inclusion of the community in restorative justice processes", and it persists today as one method of dealing with vigilantism in South Africa (Mokomane, 2023, p. 807). *Inclusion* features prominently too in the restorative justice approach to education in South Africa (Reyneke, 2011, p. 152). In that way it impacts higher education, and subsequently affects LIS education and research.

The literature of LIS is its body of research and investigative writings (e.g. books, chapters, journal articles) created, evaluated, published, reviewed, preserved, and distributed to researchers, librarians, and the wider LIS community. *Scholarly Communication* connects with this corpus of output through an extensive range of other writings that, *inter alia*, include conference papers, pre-prints, working papers, reports, blogs, discussion forums, as well as web-based materials. In that way, librarians and information professionals join LIS and other scholars in a fuller approach to research engagement, and they use several communication and publication streams. Globally, over the past decade, the volume of LIS literature and *scholarly communication* on social justice expanded rapidly as an important concept in the discipline (Mehra, Rioux & Albright, 2017).

In a review of the documentation of social justice literature, Winberry and Bishop (2021, p. 7) acknowledge the early Britz and Blignaut article. They also explain that a regular appearance of social justice in the literature emerged after 2000, and that its initial focus was the information behaviour of marginalised populations. Their analysis reveals how social justice-oriented themes, albeit expressed in other terms, appeared in LIS publications as far back as 1978. In a more direct formulation, it claims a 322% increase from the 2012-2013 to the 2014-2015 periods. Despite a trailing-off in the 2018-2019 period, social justice continued as "a topic of increased interest" in LIS to "address the information needs of those who are marginalised" (Winberry & Bishop, 2021, p.8).

Although the volume of literature on social justice has expanded globally, its quality and local impact remains uneven. As a result, the findings and recommendations are less helpful than the methodologies. Some research projects involving social justice and scholarly communication have targeted specific functions as well as sections of libraries. An example is a project of the Collections Directorate of the *Massachusetts Institute of Technology* (MIT) Libraries in the United States of America. Its aim was to manifest diversity, inclusion, and social justice values in the daily work of its libraries. Eight staff members from the archives, technical services, preservation, scholarly communication, and the collections

strategy sections had constituted a *Diversity, Inclusion, and Social Justice (DISJ) Task Force* to answer the question:

How can we operationalize the values of diversity, inclusion, and social justice in our policies, routines, and processes?

A subsequent article by a *Task Force* member discusses the project in greater detail. The author (Baildon, 2018) reflects on possible implications from anti-racist and anti-colonial positions, based on the *Task Force's* report. Although it had embraced the *Open Access* (OA) movement as social justice work, its limitations and concerns were noted too. Participation and equitable global exchange, for example, were regarded just as important as access. The goal, Baildon argued (2018, p.177), should not be “a one-way bestowal of knowledge from the *Global North* (North America and Europe) to the *Global South*”. Neither should it be about the *Global North's* consumption of *Global South* scholarship as ‘data’, but constitute instead a genuine academic conversation.

In that way, as Baildon (2018, p.177) and Hathcock (2016) argue, it avoids a type of “colonialism of scholarly communication” that pressurises “*Global South* researchers to cite North American and European rather than local scholars”, and “to publish in high-profile Western journals”. At the same time, research in the *Global South* that investigates topics of regional or local relevance remains undervalued and overlooked. As either geographical or strategic concepts the “*Global South*” and “*Global North*”, coined by the American left-wing political activist Carl Oglesby in 1969, may nonetheless be neither accurate, nor helpful. Critical questions should include: who decides which countries belong where?; and, how does this division implicate and/or impact social justice? In an analysis of a global division into “economic worlds”, the ‘new’ South Africa had for example been regarded in Africa as an economically developed society, and a member of the *Global North* (Odeh, 2010).

It had focused on factors such as ‘levels of productivity’, gross national product, agricultural production, and exports. But an important event that sought to deal with both the country’s politically and economically unjust past cannot be overlooked. Between 1995 and 2002 a *Truth and Reconciliation Commission* had worked to uncover the truth about severe human rights violations from March 1960 to May 1994. It sought reconciliation through restorative justice that connects with social justice “to address systemic inequalities, redistribute power and foster healing through participation within communities” (*Restorative Justice*, n.d.). Restorative justice is seen as a feasible pathway to social justice. Both are concerned with challenging and reshaping power structures to “foster healing through participation within communities” (*Restorative Justice*, n.d.).

Recognising the historical disparities that continue to skew South Africa's library and information services, a recent source also emphasises inclusivity. The authors (Bangani & Dube, 2023) connect social justice with *ubuntu* as being broadly about humanity to others, and as integral to community engagement. And a social justice initiative to decolonise the country's LIS "publishing landscape" enables "the inclusion of African researchers and research output into mainstream research processes" (Raju et al., 2015, p. 58; Raju et al., 2020). That is laudable as long as inclusion is merited, and/or based on a record of participation. It is important because arguments that critique 'colonial privilege' and 'Global South/Global North' concepts in order to 'problematise' scholarly communications and social justice are not always unproblematic themselves.

It is convenient but unhelpful, for example, to charge capitalism and the complicity of scholarly research for producing or reproducing "social inequalities that academic universities have perpetuated across the globe" (Roh, Inefeku & Drabinski, 2020, p. 50). Technological advances too have re-shaped the production of academic publications, and contributed to economic injustice in research globally. Many professional indexers, for example, now use indexing software which is a financial investment that should be recovered. An experienced South African indexer (P. Coates, personal communication, July 4, 2024) explains that the new software reduces several days of labour to a much shorter period. In that way, it could (and does) reduce the indexer's remuneration too. There is therefore the need for further and fuller investigation of the several ways in which social justice impacts LIS goals, functions and services.

Methodology and findings

Social justice is not the same everywhere. This essay applies a conceptual research methodology to analyse and evaluate ideas implicating social justice in two case studies of South Africa's LIS history. The first discusses perspectives and practices of *decolonisation* implicating the *Merensky Library* collections at the University of Pretoria in the 'old' South Africa. The second uncovers challenges faced by a 'whistleblower for information justice' in the 'new' South Africa. Taken together, the case studies reveal social justice features and challenges of *decolonisation* and *whistleblowing*, and they offer lessons for LIS researchers. An important finding of the first case study is that decolonisation emerged in South African LIS not as an impartial and inclusive process. That had led to a publicly-funded framework skewed by unequal access based on a repugnant racial classification. The second case study found that, despite racial equality in a 'new' and democratic South Africa, social injustice as information injustice necessitates vigilance.

Discussion

Investigating and documenting local examples and the lessons of social justice require hard work and patience. The results are however original and authentic, and best for teaching and publication, as well as for presentation at conferences, symposia and seminars. Their addition to the LIS curriculum brings opportunities too for class discussion that could lead to fuller inquiry and wider interest.

Social justice connects, for example, with *decolonisation* to overturn oppressive hierarchies and power structures in communities and countries. Investigation of local cases shapes appropriate reaction to implement redress, and to produce relevant material for teaching in local as well as regional contexts. In an analysis of *decolonisation* in Namibia and South Africa, for example, Christopher Saunders (2017) emphasises their complexity. He argues for the importance of seeing them as individual cases in a regional and comparative perspective. Not only should South Africa's *decolonisation* be understood as one of a 'special type', but its origins can be traced to different points in time. By the 1980s there was even a view that "South Africa was still to be decolonized" (Saunders, 2017, p. 106). The 'republican' idea had however challenged British colonialism in South Africa already since about 1835.

Of the two streams of Afrikaner migrants that left the Cape Colony in a *Great Trek*, the *Voortrekkers* (pioneers) listed political reasons. *Trekboer* parties, on the other hand, left primarily for better pasture (Giliomee et al., 2022, p. 154). This *Great Trek* into the interior had led to the establishment of Afrikaner republics. It displaced the *Ndebele* people who themselves then trekked to Matabeleland in Zimbabwe, and it contributed to the collapse of the Zulu Kingdom. Even when they lost their republics at the end of the South African War in 1902, it would remain a priority for Afrikaners until the formation of the Republic of South Africa in 1961. The *Volksraad* (Peoples Council) of the independent and anti-colonial *Zuid Afrikaansche Republiek* (or old Transvaal Republic) had in 1889 already, and as another priority, proposed the establishment of a university.

That would become a reality in 1908 as the *Transvaal University College* (*Tuks*), and on 15 April 1938 the original *Merensky Library*, now an important heritage site, opened its doors as a separate building. Some would argue that the *University of Pretoria* and its *Merensky Library* were conceived with '*decolonisation* in their DNA'. Others would later insist that it was instead 'colonialism of a special type'. The *South African Communist Party*, for example, explained in 1962 that this 'colonialism of a special type' had originated when South Africa became a Union in 1910. As a new or 'special type' of colonialism, it had replaced British colonialism. In effect, 'Black' South Africa had become the colony of 'White' South Africa.

With its election victory in 1948 the *National Party* then ‘weaponised’ this colonialism of a ‘special type’ through its many acts, laws, and regulations during the apartheid era. As a consequence of these events, the *University of Pretoria* and its library benefited from an unequal allocation of resources. In 1976, during its ‘Expansion Years’, a new library (*Merensky 2*) opened its doors. The University librarian, Petrus Carolus Coetzee, had already started training library staff members in 1938. He became too the first Head of the university’s *Department of Library Science* when it was established in 1948. His reputation was tainted however through connection with the Belgian *Nazi* collaborator, Herman J. de Vleeschauwer. Coetzee had recruited him to the library in 1950, but De Vleeschauwer soon moved to the *University of South Africa*.

On retirement, de Vleeschauwer donated much of his personal library collection to the *University of Johannesburg* (then named as *Randse Afrikaanse Universiteit*). That ‘special’ collection had included books stolen from Jewish homes in Belgium during *World War Two*. Their owners had been deported to *Nazi* concentration camps, and their homes looted by special units that included one for private book collections. De Vleeschauwer’s ‘special’ collection blemished the reputations of both the *University of Johannesburg* and the *University of Pretoria*, as well as their libraries. It was in effect a case of ‘decolonisation as a special type of corruption’, as well as one of social injustice.

A bust honouring Coetzee has since been removed from display in the University of Pretoria library, revealing a sad and troubled past. The lesson we may take from this is to question whether and/or how ideas of *decolonisation* and/or *Africanisation* can or will bring social justice, and how that would be different from *Afrikanerisation* during the apartheid period. Should social justice in South Africa’s university, public and other types of libraries, for example, mean ‘decolonising’ their collections? And what would that mean in practical terms? Nelson Mandela’s example, during imprisonment on *Robben Island*, is instructive.

When the anti-communist prisoners were stealing the communist books from the prison library and the communist prisoners were stealing its anti-communist books, Nelson instead borrowed and read D.J. Opperman’s *Junior Verseboek* and *Senior Verseboek*. He then wrote to Danie van Niekerk at *Tafelberg Publishers* in Cape Town, and ordered these titles. He included a postal order in the envelope to cover the costs. Danie wrote back, and sent both requested books. He also added the *Groot Verseboek*, and returned the postal order. A few lines from Nelson’s subsequent thank-you letter in Afrikaans to Danie is worth quoting:

“D.J. Opperman se bloemlesings is van besondere waarde, en ek waardeer hulle meer as wat ek in woorde kan stel. Die Groot Verseboek bevat ‘n omvattende aantal uiteenlopende gedigte van ‘n substantiele deursnee van

ons volk.... Miskien sal ek eendag die geleentheid kry om my dankbaarheid aan u te betuig” (Poetry and ‘taal’ in letter, 2013).

Danie’s daughter, Elmarie Rautenbach, subsequently posted this letter on her *Facebook* page and added the following: “The thought that there was this link between one of our greatest leaders and the language we speak, is special” (*Poetry and ‘taal’ in letter*, 2013). Decolonisation could therefore be more about adding than erasing, more about sharing around than tearing down. We should ask questions and challenge ideas like those of Congolese philosopher and writer, Valentin-Yves Mudimbe (2021, p. 131-33).

He describes the *Colonial Library* as one whose collections inform pessimistic views about Africa. Questions should include the following:

- How do we get past the predicament of using this *Colonial Library*’s collections to produce the kind of ‘Africanist knowledge’ required to challenge that pessimism?
- Is there in fact a *Colonial Library* at all?, and
- What really is *Africanist knowledge*?

After leaving the University of Cape Town over a curriculum clash about a course on Africa, Indian-born Ugandan academic Mahmood Mamdani returned in 2017. In an address about decolonising the post-colonial university, he elaborated Kenyan writer Ali Mazrui’s idea that universities (and one could add their library collections) “should permit maximum interplay between different interpretations of reality” (Omar, 2017). For these African scholars, language and their literatures are central to representing different interpretations of reality. Mamdani explains that how the Afrikaans language and its literature developed is the most decolonising initiative on the African continent.

That was the result, he argued, of the support from vast institutional networks that included universities, newspapers, magazines and publishers (and one should add libraries) – all sourced through public funds. Mamdani then encouraged the creation of centres for studying African languages and literatures, and of translation units to produce the best global, African, and South African literatures in these languages. What we learn from Mandela, Mazrui, Mamdani and others is to avoid narrowly-focused interpretations of *Afrikanerisation*, *Africanisation*, and *decolonisation*. We should instead nurture approaches that are inclusive and holistic, to advance and secure social justice in library and information services.

At the same time, we should be vigilant and resolute in guarding the integrity of information, and securing the right of access to information. When Athol Williams (2021) uncovered the corrupt strategies of his employer, the global management consultancy firm *Bain &*

Company, he learned more about information for *restorative justice* and for social justice. For him, both aim to challenge power imbalances, rectify harm, and promote inclusivity and fairness. Information for *restorative memory* and for *restorative justice* however has a more direct practical side to which he committed himself. In October 2019, Athol ‘informed on’ or ‘blew the whistle’ on *Bain & Company*.

He has qualifications in engineering, management and politics, and is also an award-winning poet. *Bain & Company* had contracted Athol to help mend relations with the South African government after a *Commission of inquiry into Tax Administration and Governance at SARS* (South African Revenue Service) found in 2018 that it had been involved in state capture. State capture involves political corruption in which private interests influence decision-making processes to their own advantage. There was a “deep collusion” between *Bain & Company* and the SARS Commissioner.

As a result, several government departments failed to effectively deliver essential law enforcement, security, transport, electricity, and information services to South Africans (Williams, 2021, p. 9). Athol had worked for the company before and believed that his “good standing” was the reason why this task was assigned to him. His understanding was that *Bain* was committed to bring remedy for harms it had caused. By 2009 South Africa was experiencing a take-over by corrupt politicians and officials that *Bain* began to exploit. That occurred as a joint effort to repurpose some of the country’s public institutions and to redirect public resources.

The *South African Revenue Service (SARS)* was a key institution that *Bain* targeted, which led to a tax shortfall estimated at R100 billion. The country’s President (Williams, 2021, p. 211) reported that the overall cost of state capture was between R500 billion and R1 trillion. Frustrated by his efforts with *Bain & Company* and its legal team *Baker McKenzie*, to obtain information from official reports and documents, Athol reported this company in October 2019 to the *Zondo Commission* for withholding information about its complicity in state capture. This was a *Judicial Commission into Allegations of State Capture, Corruption and Fraud in South Africa’s Public Sector, including its Organs of State*.

Without that information, Athol could not fulfil the task assigned to him, and he was unable in good conscience to report to the Commission, and to South Africans, that the company had made amends for damaging *SARS* as well as other public institutions. Athol realised that *Bain & Company* had never intended to make full disclosure because it feared a more comprehensive investigation and possible prosecution by the United States’ *Department of Justice*. The *Zondo Commission* subsequently uncovered collusion between *Bain & Company*, as well as its South African branch, with the former President of South Africa

and its Revenue Service chief executive officer, to “capture” the tax agency (Williams, 2021, p. 195).

In that way, SARS and other state institutions were damaged when public funds were siphoned off into private pockets. Athol’s connection with *Bain & Company* is a dark and unfinished chapter in South Africa’s information history as a “new” democracy. The South African and the United Kingdom governments banned the company for ten years in August 2022 (Kollewe, 2022; Reuters 2022). More worrying was that Athol fled the country, and remained in hiding without income or guarantees for his safety. In an act of social justice, he had chosen to stand up and speak out against corruption, and to oppose powerful forces. Whereas apartheid informants had been “lackeys of the powerful”, whistleblowers in the “new” South Africa “place limits on the abuse of power, by power holders” to secure social justice (Uys, 2011, p. 165).

Athol discovered that *Bain & Company* had revealed to him only the information it wanted to reveal instead of the information he needed for the task assigned to him. He named this as *Baintruth* that only reveals information if and when asked, and of invoking legal privilege in order not to disclose information. Also, the company had labelled information to protect corrupt interests. In that way, ‘commercially confidential’ and ‘non-public’ became labels to hide information about tampering with tender processes at South Africa’s telecommunications company, *Telkom* (Williams, 2021, p. 223). This *Baintruth* was not the truth to which Athol had committed himself, and *Bain information* was instead about showing ‘mistakes’ that it had made. In other words, that it had not done anything morally wrong or caused any injustice.

Athol explains that it was in fact *Bain-disinformation* instead of *Bain-misinformation*. In doing so, he assumed the role of an ‘information hero’ for social justice, standing up to a ‘global information bully’. In 2022 he was presented with the *Blueprint Special Recognition* award for “integrity and bravery in the public interest”. It noted that he had “highlighted the vast gap between theories and ideas of social justice and their realisation”. In his acknowledgement of the award Athol, who is now also an Honorary Fellow at the University of Oxford, affirmed its encouragement to continue advocating for justice (Williams, 2023).

The commendation to that high honour as an ethics scholar mentions his dedication to fighting social and economic injustice. Importantly, it recognises also the initiation of the *Read to Rise* (2013) charity that he and his wife had founded to provide educational opportunities for children. It is active at primary schools in the Mitchells Plain township in Cape Town, where he grew up, as well as Soweto township in Johannesburg. Athol’s private library of books that he collected since the 1990s reached over 2,000 by 1995.

Among other interests, it features South African literature and history collections as well as world literature.

Taken together, the library, literacy, and reading projects with his wife and relatives, covering just over a decade, reveals a strong commitment to close the vast gap between theories of social justice and their realisation. Athol's story underscores the need to be vigilant and resolute about information integrity, and about the right of access to information. He joins other African 'information heroes' who before him also stood up to secure information and social justice in difficult and dangerous times.

At great personal risk in 2012, Abdel Kader Haidara, the Malian librarian and archivist, had spearheaded a clandestine operation to move thousands of ancient manuscripts to safe houses in *Timbuktu* (Hammer, 2014). In that way, he prevented militant extremists from destroying the precious writings. Sarah Cody (n.d.) explains that "when it comes to preservation, social justice involves making a personal as well as professional commitment to fighting against systems of inequity". Information heroes were instrumental in saving African antiquities, and preserving the continent's cultural heritage (Dick, 2014). Librarians and archivists were inevitably involved too in the *anti-apartheid struggle*. Some became information villains, while others are revered as information heroes.

We need more social justice and information justice heroes today. We should feature and foreground them in our curricula, our literature, and our conferences. They merit inclusion on an honour roll of '*information heroes for social justice*'.

Conclusion and recommendations

This essay:

- Reviewed some of the LIS literature on social justice;
- Discussed case studies of decolonisation and whistleblowing as examples to understand aspects of social justice in LIS; and
- Shared experiences of investigating, and writing about social justice.

Even if social justice is understood as re-cycling old responses to fresh challenges, its relevance cannot be ignored. Social justice compels LIS teachers, researchers and practitioners to re-assess present circumstances, and to revise responses to a new information environment. Time and place are however fundamental factors for appropriate responses and should be acknowledged in discussion, debate, and recommendation. If international conferences are helpful in recognising and labelling wider shifts and trends, regional and local conferences are helpful for relevant and meaningful content.

The SCECSAL (Standing Conference of Eastern, Central and Southern African Library and Information Associations) proceedings, reports, resolutions, and related publications generally tend toward practical advice and implementable recommendations. These should be more accessible to the wider library community for discussion and action. Social justice themes and topics should feature prominently too in LIS curricula for both instruction and further investigation. A higher aim should be to encourage social justice investigation at the Masters and Doctoral degree levels, as well as publication and reviews of their findings in thematic issues of internationally accredited journals, or as fuller monographs. Ensuring and securing social justice in our curricula, our research, our practices and services require that we continue to investigate, document, teach and publish about its themes and its significance.

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Indigenisation of the New Zealand Library and Information Sector: Implications for Diversity, Equity and Inclusion

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Abstract

This essay examines the evolving ethnic landscape of New Zealand and its implications for the library and information management sector. Since its early colonisation, New Zealand has transformed demographically, with a notable decline in the proportion of New Zealand Europeans due to population growth among Māori and increasing migration from Pacific nations and Asia. As the ethnic makeup shifts, library institutions, predominantly staffed by New Zealand Europeans, face significant challenges in meeting the diverse information needs of the population. The essay highlights the urgency of re-evaluating library staffing, recruitment, and training to enhance cultural competency and inclusivity. It also discusses how New Zealand's library and information studies curricula have increasingly integrated Māori knowledge and perspectives over the past 30 years, aligning with Treaty of Waitangi obligations. However, the representation of other ethnic communities remains insufficient. The essay advocates for a more inclusive curriculum that not only prioritises mātauranga Māori but also encompasses the diverse needs of all cultural groups, arguing that addressing Indigenous perspectives can serve as a foundation for equitable information access for all New Zealanders.

Keywords: Māori; indigenisation; diversity; ethnic minorities; New Zealand

Introduction

This essay explores the relationship between calls for diversity, equity and inclusion (DEI) in New Zealand, and the need to firstly ensure that the rights of Māori as our Indigenous people are recognised and fulfilled. Only by prioritising these needs can true DEI and multiculturalism be achieved, as tangata whenua (people of the land), Māori hold a unique and foundational place in New Zealand. This place is mandated by the obligations outlined in Te Tiriti o Waitangi (The Treaty of Waitangi), which sets a framework for partnership, participation and protection of Māori rights.

In the context of library and information studies, the implementation of a Tiriti focus involves a transformative approach to the curriculum and professional training of librarians, ensuring that these educational pathways fully incorporate the principles of Te Tiriti. The essay explores how embedding Māori perspectives and honouring Tiriti obligations are essential first steps towards making it possible for the library profession to truly reflect and serve New Zealand's diverse communities. Until these Tiriti obligations are satisfactorily resolved, other ethnic communities living in New Zealand will need to be patient.

Context

Still considered a relatively young country, New Zealand is becoming increasingly culturally diverse. Originally settled by Māori (New Zealand's Indigenous people), it was later annexed by the British in 1840 after the signing of the Te Tiriti o Waitangi. (Orange, 2021). Te Tiriti was an agreement between the British Crown and Rangatira Māori (Māori Chiefs), consisting of a preamble and three main articles which were translated from English into te reo Māori (Māori language). However, due to mistakes in the translation the text of the two versions are contradictory, with the major point of contention being whether Māori ceded sovereignty to the Crown, or whether Māori only provided the Crown the right to govern their own citizens.

After annexation, formal bureaucratic structures were put in place and the influx of new settlers that followed resulted in Europeans becoming the dominant population in the 1860s (King, 1990). This led to high demand for land and other resources ultimately resulting in war between Māori and non-Māori, and subsequently the introduction of legislation that alienated land, enforced Western educational standards, and restricted the use and sharing of Māori traditional knowledge.

By the end of the nineteenth century, it was widely expected that the Māori population would die out. Walker (2004: 172), states that “for some Pakeha extinction by natural attrition was the preferred outcome... and that the Darwinian law of survival of the fittest was inexorably being played out” However, in the early 20th century the Māori population had started to recover and grow again, with there being an increase of 40,000 between 1900 and 1936. The demographic structure has continued to change during the 20th and 21st centuries, with a significant surge of migrants occurring after World War Two and following changes to immigration regulations in the 1990s. Although New Zealand Europeans¹ remain the

¹ There is no distinct name that can describe people in New Zealand that are of caucasian origins. The Māori term is Pākehā but this is for many a controversial name as it is often used in a derisory manner, and its origins appear to stem from a longer Māori word that translates as ‘goblins from far away’. An alternative name that has in the past garnered much support is New Zealander, but demographers associate this term with nationality rather than ethnic identity.

largest ethnic group, their proportion of the country's overall population has diminished. This has occurred through a regrowth of Māori, and an influx of peoples from the Pacific nations, and Asia and its sub-continent (Spoonley, 2020). In 2020, the report of the Royal Commission of Inquiry into the Terrorist Attack on Christchurch Mosques identified that New Zealand had become a super-diverse country, as characterised by the substantial increase in the diversity of ethnic, minority and immigrant groups present in our country as well as by a quarter of the population having been born overseas (p.72). By 2043, the overall population of New Zealand is projected to be 6.1 million people. Table One shows the proportion of population identities by ethnicity from the 2013, 2018, and 2023 New Zealand Census and the projections for 2043 (Stats NZ, 2023).

Table 1: Ethnic composition of New Zealand's population sourced from Statistics New Zealand data

Ethnic Identity	Population Proportion 2013 census (4.24 million)	Population Proportion 2018 census (4.7 million)	Population Proportion 2023 census (4.99 million)	Estimated Population 2043 (6.1 million)
New Zealand European	74.2%	70.2%	68%	64%
Māori	14.9%	16.5%	17.8%	21%
Pacific Peoples	7.4%	8.1%	8.86%	11%
Asian	11.8%	15.1%	17.25%	26%
Middle Eastern, Latin American, and African peoples	1.2%	1.5%	1.85%	3.0%

Research problem

Despite the growing diversity of the population in New Zealand, there remains a clear distinction between the status of Māori and other ethnic minority groups. Any discussion relating to ethnic diversity is contextualised in a race-based environment, which is signalled by the need for the Human Rights Commission to have a dedicated position focused on race relations. The dialog about race relations has traditionally focused on the relationship between Māori and non-Māori, with the latter group consisting of many different ethnicities, organisations, and institutions. As already mentioned, this relationship has been dominated by the differing interpretations of Te Tiriti o Waitangi. Consistent breaches of Te Tiriti by successive governments have strongly influenced race relations in New Zealand and have not led Māori to a position where they can dismiss 'colonisation' as being in the past, as Māori dominate the negative social statistics associated with unemployment, low incomes, poor health, homelessness, educational underachievement and incarceration.

In an environment where these negative social outcomes are a source of tension between Māori and non-Māori, it is difficult for other ethnic minorities to get any traction related to their needs in similar social situations.

The issue of immigration policy has been a point of contention in the relationship between Māori and the government. Spoonley (2020: 86) cites the late Professor Ranginui Walker, who asserted that Te Tiriti o Waitangi was New Zealand's first immigration policy and that immigration policies implemented in the 1980s had breached the terms of the agreement signalled in te Tiriti. Mutu (2024) outlines the frustrations and anger of hapū (subtribes) and iwi (tribes) of the continued breaches of te Tiriti and states that despite their taking on supremacist titles such as the Crown, colonizer, and other official titles, they are the "British immigrants our ancestors invited to live with us, and their descendants are still our guests, in spite of their bad behavior" (pp.154).

Despite the variety of ethnicities represented in New Zealand, te Tiriti o Waitangi remains the critical factor in determining how social, political and ethnic agendas are managed, with biculturalism at the centre of these. Within an increasingly multi-ethnic nation, questions are often asked about why New Zealand continues to focus only on biculturalism rather than multiculturalism.

In the 1950s and 1960s, New Zealand was often praised for having the best race relations in the world, and te Tiriti o Waitangi was celebrated as an enlightened document (Hill, 2010). However, this claim was based on the mistaken belief that Māori people were happily integrating into European society and the adding of migrants from the Pacific and other nations would see New Zealand become a harmonious multicultural country. With the benefit of hindsight, it has been shown that this was socially naïve and wishful thinking on the government's part, as Māori had continuously expressed their discontent with approaches by successive governments to Māori affairs policies.

By the 1970s, Māori had survived policies linked to acculturation, assimilation and integration, and through a growth in urbanisation, there was an expectation that they would embrace multiculturalism. However, the myth that Māori were happy was shattered through protests, land occupations, outbreaks of violence and political activism, equated with the expression of tino-rangatiratanga (self-determination) as guaranteed in Article Two of Te Tiriti.

In 21st century New Zealand, the right of Māori to be recognised as the Indigenous people of New Zealand is still not supported by all, with far-right activist groups and political movements constantly questioning the validity of Te Tiriti o Waitangi and challenging the rights that it provides to Māori.

In a society that is determined to be seen as diverse, it is imperative that Māori needs continue to be prioritised in line with the obligations stated in the Te Tiriti o Waitangi, so New Zealand reaches a level of harmony that provides a solid foundation for policies related to diversity to be actioned. This requires a level of understanding from other ethnic communities that until things are right for Māori, it will not be possible to ‘get it right’ for all ethnicities.

The requirement to get things right does not only fall to the Crown; it is an obligation for all New Zealanders, whether they are Tangata Whenua (Māori) or Tangata Tiriti (those who belong due to te Tiriti, which includes all other members of ethnic groups). This involves Tangata Tiriti understanding what their obligations are, and the significance of Māori being the Indigenous people of New Zealand. A vital component of this is for those who are identified as Tangata Tiriti to grow their level of cultural competency in te ao Māori (Māori worldview), including understanding how the imposition of colonial policy, social and cultural norms impacted on Māori society and knowledge systems.

Objectives

This essay now shifts to identifying the role that the library and information sector has in first ensuring that their services and resources are structured to meet the needs of Māori clients and how they then adapt and apply similar principles to ethnic minority groups.

The emphasis on Te Tiriti o Waitangi continues to be challenging for libraries and other information agencies, as it requires a level of cultural and political capital to understand their role in perpetuating colonial injustices, and how to transform themselves into institutions that successfully meet the cultural and information needs of Māori, including the continued protection of mātauranga Māori (Māori knowledge) for future generations (Lilley, 2016). There is a high level of difficulty associated with this, due to the low number of Māori staff in these institutions and the general lack of cultural competency of their non-Māori staff. Therefore, despite the growth in diversity, until the institutions and the professionals they employ can get things right for Māori it is unlikely that they will get it right for other ethnic communities.

There is a strong understanding amongst the New Zealand library and information studies educational providers of the importance of embedding Māori perspectives into the curriculum (Lilley, et. al., 2023). However, this understanding has not always been apparent; the following sections of this essay show how Māori issues, including the importance of mātauranga Māori, were historically not recognised.

Indigenising library and information studies education

Before 1942, librarians in New Zealand seeking formal professional qualifications were required to obtain these in the United States or the United Kingdom. The New Zealand Library Association started offering elementary level training in 1941 with the introduction of a Children's Librarian Certificate, and a year later they introduced a general training course for library staff who studied at an undergraduate certificate level by correspondence. These two courses were designed for support and intermediate-level staff. In 1946, library education at a graduate diploma level was introduced and led to the development of the Library School as an attachment to the Country Library Service (later subsumed into the National Library). The Library School remained based at the National Library until 1979. No evidence exists of any focus on Māori or Te Tiriti issues while the courses were based at National Library. Within the wider profession, there was equally little focus on these matters apart from a reference to the establishment of a New Zealand Library Association committee in 1963 to investigate providing library services to Māori communities. However, MacDonald (1993: 17) noted that despite there being a lack of evidence that the recommendations of the committee were implemented, the report remains important as it made it explicit to the Association that there were deficiencies in library services received by Māori.

In 1980, the Diploma programme became part of the Victoria University of Wellington, with the Certificate programme shifting to the Wellington Teachers College (later becoming Wellington College of Education).

Very little has been written about library and information education in New Zealand, with most contributions being reports of formal reviews of programmes (Graham, 1969; Saunders, 1987; Barron, 1994). Historical information about the formation of the different educational programmes is covered by McEldowney (1962), Richardson (1998), Millen (2010) and Lilley (2013). The Saunders (1987) report's lack of reference to the Treaty of Waitangi or the interests of Māori led to it becoming a catalyst for change; the report's monocultural nature was challenged by a group of students, Te Rōpū Takawaenga, who called for library education to be more inclusive of Māori and bicultural issues. There was broad support for the students' stance from the wider profession (Lilley, 2013). The social, cultural and political changes occurring in New Zealand during the 1980s had a strong influence on the New Zealand Library Association, which revised their mission statement in 1990 to include a reference to upholding the Treaty of Waitangi. Subsequently, the certificate and diploma programmes both started including more Māori-focused content in their courses.

The qualifications have continued to change and evolve, with the undergraduate programme transferring to the Open Polytechnic of New Zealand in 1998, where students can now choose to study up to a Bachelors level qualification.

The programme at Victoria University of Wellington offers students the opportunity to complete a Masters level qualification. However, despite the inclusion of courses focused on Māori issues, Te Rōpū Whakahau (the Association of Māori in Library and Information Management) was not satisfied with the slow progress towards the inclusion of Māori content in the existing programmes. In partnership with Te Wananga o Raukawa, they launched a qualification – initially a Diploma in Māori Information Management (now known as Te Puna Maumahara), which is grounded in mātauranga Māori (Te Wananga o Raukawa, n.d.). Winiata, (2021) outlines the genesis and philosophy that underpins the Puna Maumahara programme and how the graduates' knowledge and skills play a positive role in the organisation and management of iwi repositories in marae-based institutions, where graduates from this programme are typically employed.

In more recent years, the Victoria University of Wellington programme has focused on indigenising our curriculum. Lilley et al. (2023) outline how mātauranga Māori and Indigenous knowledge elements have been incorporated into the content of the core courses of the Master of Information Studies programme, and the course content reviewed and revised on a regular basis. Future developments include providing an opportunity for students to obtain an Indigenous Knowledge endorsement, a specialisation that would join the endorsements in Archives and Records Management, and Library Science that are currently available.

Indigenising the Master of Library and Information Studies (MLIS) curriculum at Victoria University of Wellington has included focusing on the distinction between Western and Māori ways of knowing, identifying alternative forms of collection development and knowledge organisation, providing Māori perspectives on information policy issues, incorporating Māori values into the organisational culture of institutions, identifying how research impacts on Māori, and how Māori research methodologies can provide better outcomes for Māori clients. This is in addition to two specialist courses that focus on Māori and Indigenous perspectives with regard to information.

Professional development

Another major influence on increasing the degree of understanding of te ao Māori (Māori view of the world) by the library and information profession was the introduction in 2007 by the Library and Information Association of New Zealand Aotearoa (LIANZA) of a professional registration scheme. Designed to encourage ongoing professional development, the scheme adopted a body of knowledge (BOK) based on the professional elements promoted by the International Federation of Library Associations with an additional eleventh element focused on Indigenous knowledge systems, which in New Zealand is mātauranga Māori (LIANZA, n.d.).

In addition to the emphasis on mātauranga Māori in BOK 11, other BOK elements are designed to require registrants to demonstrate how their professional development incorporates activities aimed at improving their awareness and engagement with Māori information. For example, BOK Six relates to research, analysis and interpretation of information, and one of the suggested professional learning activities includes becoming familiar with Māori research methodologies to see how they can be used to get feedback from your Māori community. Members of the scheme are required to undertake professional development across the full range of activities listed under each knowledge element. Recording the activities in a portfolio, with a reflection on what they have learned and what they have applied from the continuing professional education opportunity, these portfolios go through a triennial evaluation which is required to retain registration.

To ensure that graduates from library and information studies programmes are eligible for professional registration, LIANZA reviews the suitability of these programmes and maps the academic content in their courses against the eleven parts of the body of knowledge. In keeping with the emphasis on te Tiriti o Waitangi and biculturalism, close scrutiny is made of how each programme is focusing on mātauranga Māori across the entire body of knowledge. This assessment ensures that graduates from these programmes have the knowledge necessary to become members of the professional registration scheme and to provide services and resources to Māori users of their institutions.

Despite an enthusiastic response to its introduction, the non-compulsory nature of professional registration has seen the numbers drop from 994 in June 2013 to 379 in June 2023 (LIANZA, 2023). Although this should not imply that professional continuing education about mātauranga Māori is not occurring amongst those who are not part of the registration scheme, it does make it difficult to understand the frequency, quality and impact of this training.

Methodology

As indicated in previous sections considerable effort has been put into identifying how courses in library and information studies education can cover the service and resource needs of Māori clients. This section of the essay focuses on how these factors have been addressed, and is based on my personal observations as a former library professional and as a library and information academic teaching and researching at the cultural interface in a New Zealand university LIS programme.

Over the past three decades it has become increasingly imperative that LIS courses in New Zealand are more inclusive of Māori cultural values as expressed through mātauranga Māori, tikanga Māori and kaupapa Māori.

It is important to note that as an orally focused culture, Māori approaches to knowledge management are traditionally characterised by inter-personal transmission: whakairo (carving), tukutuku (woven panels), waiata (sung poetry), karakia (incantations) and tūtakiwā (place names). Known more formally as mātauranga Māori, this knowledge system recognises the interconnectedness between cosmogony, humans and the natural environment, and is underscored by te reo Māori. Mātauranga Māori also affirms Māori identity at the whānau (extended family), hapū (sub-tribe), and iwi (tribe) levels that represent its social stratification, while also recognising that each iwi may have their own knowledge system reflecting their history, beliefs and customary practices, which Doherty (2012) labels mātauranga-a-iwi (iwi knowledge system).

Tikanga Māori is translated as Māori customary values and practices (Stephens & Boyce, 2013), being derived from the term tika (right). Marsden (2003: 66) therefore associates tikanga with “the right way of doing things”.

Mead identifies the role of tikanga Māori as controlling *“interpersonal relationships, provides ways for groups to meet and interact... Tika means to be right and thus tikanga Māori focuses on the correct way of doing something ... and involves moral judgments about appropriate ways of behaving and acting in everyday life... It has correct ways of behaving and with processes for correcting and compensating for bad behaviour”* (Mead, 2016: 13-14).

Tikanga Māori is therefore a critical component of mātauranga Māori (Māori ways of knowing), and although it is understood by the legal profession as being the first law of the land (Ruru, 2018; Williams, 2013), it is not enforceable in New Zealand’s law. Tikanga Māori is primarily exercised and practised by Māori in culturally important places and ritual interactions. Knowledge of how tikanga Māori is applied is not restricted to Māori – many non-Māori also have a rudimentary understanding of it, although it is not universally understood or necessarily accepted as valid by all New Zealanders. It is also difficult to teach our library and information studies students how to engage with and perform specific tikanga, as this is knowledge that is complex, and often varies according to the context, as it drawn from a vast corpus of knowledge that is often dependent on how it is applied in specific contexts, situations or even geographic areas. Although we are able to provide students with some basic understanding of the importance of these differences, the overall complexity of Māori knowledge systems requires more time than is currently available within a crowded curriculum. Ideally students would come pre-equipped with this knowledge; however, as they come from a variety of disciplines and cultural backgrounds it is not unusual for them to have had little or no exposure to te ao Māori.

It is only in more recent years that Māori cultural knowledge and values have become more visible, but by no means a compulsory, component in the school curriculum.

Kaupapa Māori, like tikanga Māori, draws on the knowledge embedded in mātauranga Māori. As a concept, it emphasises situations and activities are Māori focused. Therefore, kaupapa Māori is recognized as creating an environment where 'being Māori' is prioritised, and where Māori language, culture, knowledge, and values are accepted in their own right (Smith, 2021). The creation of a kaupapa Māori-led activity, therefore, provides a framework for Māori to succeed as Māori. In a kaupapa Māori framework, many of the same principles and values are applied as those that constitute 'normal' behaviour in a tikanga Māori sense.

Culture and identity in New Zealand libraries

Like other colonised countries, early libraries in New Zealand were created by settlers and were mostly private or subscription institutions charging members a fee for belonging, asking for contributions to the collection, or using some other form of fee raising to make their collections viable (Fields, 2018). As 'colonial constructs', libraries were an enigma to Māori. Although libraries in New Zealand started collecting Māori literary resources into their collections very early on, Māori were notable as non-users of these facilities. This is illustrated through the thoughts of participants in a series of hui (Māori gatherings) aimed at understanding Māori information needs. The comments referred to the threatening nature of libraries, how clinical and impersonal they appear to Māori, and their tendency to be monocultural in nature (Szekely, 1997: 14). Although these comments were made after the developments in the next paragraph, they do show that at least amongst some Māori there was some lingering hesitation to use a library.

However, the decision by the New Zealand government in 1985 to alter the power of the Waitangi Tribunal to hear retrospective claims back to 1840 began to change all this. This development required claimants, iwi researchers, Tribunal staff, Crown representatives and other interested parties to research and compile information relating to claims being made to the Tribunal. The historical information sources the researchers required were in library and archival institutions, leading to increased usage of these facilities, particularly by Māori. This resulted in a higher demand for Māori professional staff, especially from major research and larger public libraries and archival institutions, who suddenly had to provide specialist Māori information services en masse, leading to many of these institutions creating Māori specialist positions to provide these services.

It is now standard procedure for larger public, research and academic library systems to have at least one dedicated position for a Māori specialist. However, even though these positions are classified as professional roles they are not always held by individuals with

library and information science training, as there is a national shortage of Māori who have chosen to gain qualifications in this area.

Conclusion

The statistics in Table One demonstrate that the expected change in the country's demographic profile creates a need for the LIS curriculum to be more inclusive to ensure that a large proportion of New Zealand's ethnic population is not disadvantaged in the future, and that members of other diverse community groups can equitably access information. However, in keeping with te Tiriti o Waitangi obligations to Māori, there is first a requirement to ensure that the curriculum is aligned and inclusive of the needs of Māori. Until LIS education gets it right for Māori, it is unlikely to get it right for those who belong to other ethnic communities.

Fortunately, the thought that is being invested in the Indigenisation of the curriculum provides a useful pathway for developing and adapting content that represents the needs and worldviews of the other ethnic communities present in New Zealand.

Setting a solid foundation for our students to understand the importance of non-Western ways of knowing will enable the programme to critically assess how we deliver content that assists students to understand the information needs of other ethnic communities represented in New Zealand. This foundation will enable the construction of a curriculum that is inclusive, relevant and responsive to the needs of ethnic communities will ensure that graduates from our programme will have an understanding of the cultural nuances of these communities and be able to deliver services and resources that meet their needs, thus making a strong contribution to a more socially cohesive New Zealand.

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Glossary of Māori words

Hapū	Māori sub-tribal grouping
Hui	Māori gatherings/meetings
Iwi	Māori tribal grouping
Karakia	Incantations/Prayer
Kaupapa Māori	Māori focused agenda/issue
Māori	Indigenous New Zealander
Mātauranga-a-iwi	Tribal knowledge system
Mātauranga Māori	Māori knowledge system
Pākehā	Māori term for European New Zealander
Rangatira	Māori Chief
Tangata Tiriti	People of the Tiriti (non-Māori)
Tangata Whenua	People Indigenous to the land
Te Ao Māori	Māori view of the world
Te Puna Maumahara	Diploma in Māori Information Management qualification
Te reo Māori	Māori language
Te Rōpū Whakahau	The Association of Māori in Library and Information Management
Te Wananga o Raukawa	Raukawa school of higher learning / tribal college
Tikanga Māori	Māori values and beliefs
Tino-rangatiratanga	Self-determination
Tiriti o Waitangi	The Treaty of Waitangi
Tukutuku	Woven panels
Tūtakiwā	Place names
Waiata	Sung poetry
Whakapapa	Genealogical links
Whānau	Extended family grouping
Whakairo	Carving

Promoting Interactions and Engagement with Scholarly Research: Speculations on the Role of the Librarian in Advancing Experimental Publishing

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Abstract

This essay reflects on the role librarians and Library and Information Science (LIS) curricula can play in promoting experimental publishing and in nurturing and facilitating interactions with openly available books. It outlines research conducted for the Community-led Open Publication Infrastructures for Monographs (COPIM) and Open Book Futures projects, which mapped the different kinds of experimental (book) publishing currently taking place—including information about the (open source) tools, resources, software, best practices and guidelines for experimental publishing presently available—in response to a professed need of publishers and academics to experiment more with the format of scholarly publications. Experiments with open, multimodal, processual, and more bibliodiverse forms of publishing question how the hegemonic scholarly communications system is currently set up. What does this imply for the role of the librarian within scholarly communications? This essay positions the support of and facilitation of experimental publishing as an extension of the traditional role of librarians to promote interactions and engagement with research (with librarians playing a key role in community building), while also lining up with growing demands from libraries and faculties for scholarly communication services, and library efforts to promote social justice, decolonisation, and excluded and indigenous knowledges. Furthermore, it reflects on the growth of libraries as publishers, and the important role library presses have played in promoting open access and innovative forms of publishing. Finally, this essay describes one of the outcomes of the COPIM project, the Experimental Publishing Compendium, and outlines how it could be used as a resource in LIS curricula.

Keywords: experimental publishing, library publishing, scholarly communications, open access, bibliodiversity

Introduction

The academic publishing system up to the present day continues to be largely structured according to a print-paradigm (Adema, 2021). Even though scholarly research outputs are now mostly available digitally (too) and the ways they are distributed and accessed has fundamentally changed, their appearance and how scholars interact with them continues to mirror print publications. Especially in the humanities and social sciences, research outputs are predominantly shared in either fixed and stable print formats (e.g., books and journals) or as stable online PDFs. At the same time, the move to digital publishing, and the specific opportunities the digital holds for the various different ways in which scholars can potentially communicate their research, has led to an increased need and interest from the side of both publishers and authors to publish more experimental, multimodal, and processual forms of research (Adema, 2021; Arbuckle, 2019; Ball & Eyman, 2015; Christie, 2014; Cullen & Bell, 2018; Maxwell, 2015). Over the last 5 years research has been conducted within the COPIM and Open Book Futures projects on the state of experimental book publishing in the Arts, Humanities, and Social Sciences, situating it within the wider field of academic publishing, outlining inhibitions to and opportunities for experimental publishing, and promoting it by conducting and supporting various pilot projects and by creating resources for the wider scholarly communications community interested in experimental (book) publishing.¹ This research mapped and provided an overview of the different kinds and forms of experimental (book) publishing currently taking place, to promote and give visibility to the rich and diverse forms of digital, multimodal, and interactive scholarship out there, and to help and inspire other presses and authors to conduct similar experiments themselves (Adema et al., 2021, 2022). In addition to that information was collected about the (open source) tools, resources, software, best practices and guidelines for experimental publishing currently available, to close the gap between the need of publishers and academics to experiment more with the format of scholarly publications, and the expertise, skill sets, tools and technologies, and funding they have to actually do so (Adema & Stone, 2017a, 2017b).

Research problem

The research conducted as part of the COPIM project focused mostly on promoting experimental publishing amongst publishers and authors, and on raising awareness of and establishing connections between these actors and the open source tools, platforms, and software providers that facilitate more experimental forms of publishing. In this essay I would like to expand this research by exploring what role librarians² can play in experimental

¹ The COPIM (2019-2023) and Open Book Futures (2023-2026) projects consist of international partnerships of researchers, universities, librarians, open access publishers and infrastructure providers, building community-owned, open systems and infrastructures to enable open access book publishing to flourish.

² Throughout this essay I use “librarian” as an inclusive definition covering any individual whose roles contain

(book) publishing and how they can be (and often already are) key stakeholders in promoting more experimental forms of publishing and in nurturing and facilitating interactions with openly available books.

Objective and methodology

In the next part, based on a literature review and analysis, I will first outline how the COPIM research has perceived and situated experimental publishing. This includes insights on how open access publishing opens up scholarship, but can also provide novel ways for scholars to interact with books. Some of the more common kinds of interaction that open access books afford that were identified include *annotating*, *open peer review*, *remix and reuse*, *social scholarship*, and other *emergent practices* (including versioning), but it could also take the form of creating communities and conversations around books (Adema et al., 2021). In the second part of this essay, I will then turn to the opportunities for academic libraries to become more involved in promoting and supporting experimental publishing and in nurturing and facilitating interactions with openly available books. I will argue that this activity can be seen as an extension of the traditional roles of librarians to promote interactions and engagement with research as well as with their expanded focus on scholarly communication services, how it lines up with their efforts towards epistemic and social justice and the decolonisation of libraries, and how it extends the key role played by libraries as publishers in promoting open access and innovative forms of publishing. I will end this essay by looking in specific at a resource that could be explored within Library and Information Science (LIS) curricula to help prepare for this extended role for librarians.

Literature review

As the COPIM research and several of its pilot projects attest, experimental publishing can take a myriad of forms and modalities and can incorporate any format or medium (Adema et al., 2021, 2022; Kiesewetter, 2023). Crucially, what experimental publishing does (more than with it is) is examine, question, critique, and explore established publishing practices, workflows, and models that are often the outcome of solidified print- and codex-based publishing conventions and neo-colonial and commercial hegemonies in academic publishing and knowledge production.

Experimental forms of publishing tend to challenge the dominance of print-based processes within conventional forms of academic publishing (as being natural and the most suitable for all forms of research), and question models and relationalities of

responsibilities for library work regardless of job title or qualification. Thanks to Simon Bowie for highlighting this distinction to me.

knowledge production that simply reproduce humanist, neoliberal, and epistemic legacy systems, which are often taken for granted or repeated uncritically. But experimental forms of publishing also speculate on the future of the book, of the humanities, and of academic publishing, providing imaginaries for new and innovative ways to communicate and disseminate research findings and to create communities around them. This includes reimagining the relationalities that constitute academic writing, research, and publishing, rethinking what research, scholarly communication and publishing are or do, and how they are currently organised to support the needs of specific stakeholders. In this way, beyond critiquing and examining the forms, structures, and systems that underlie established and hegemonic systems of scholarly communication—including the dominance of commercial and monopolistic publishing companies, which promote a system shaped by and accommodating and serving mainly publishers, academic institutions, and scholars in the Global North—experimental publishing as a practice and imaginary has also always been about reperforming and reimagining these. It does so among others by working towards publishing formats and relations that are more equitable and might better suit the diverse forms of humanities research while supporting the conversations and interactions around it.

To make this more concrete, let me provide some examples of what experimental publishing can be (without wanting to fix it down).³ It includes experiments with the form and format of the scholarly book (e.g., with different lengths such as minigraphs, with processual or ongoing forms of publishing, and with different styles of academic writing that are more creative or poetic); with the various (multi)media through which books can be performed (incorporating anything from video, sound, and images to comics and animations); and with the ways in which scholarship can be produced, shared, and consumed (e.g., experiments with anonymous and collaborative authorship and with more interactive forms of research), as well as reviewed (e.g., open peer review experiments), reused, and interacted with (e.g., experiments in licensing, with hypertext, and computational books). But it also includes experiments that reimagine the relationalities that constitute and the political-economy that underlies academic writing, research, and publishing, that want to rethink what research, scholarly communication and publishing are or do, and how they are currently organised (e.g., by experimenting with new publishing models or by rethinking the roles of publishers, authors, developers, designers and technological agency in experimental publishing, exploring different workflows, tools, systems, and infrastructures).

³ This to acknowledge the “irreducible plurality of academic publishing” (Kivistö & Pihlström, 2015, p. 4) and to provide space for speculative, emergent, and experimental forms of publishing to intervene in and keep open the politics of knowledge production—beyond ongoing institutionalising measures to close it down again (Adema & Hall, 2013; Drucker, 2004; Kember, 2014).

Experimental publishing projects and publications often lack a clear market-appeal. Similar to what Ortega argues with respect to the publishing of print-digital hybrids, many experiments are also one-offs and are non-scalable (as commercial models). These kinds of experiments “persist at the margins of large scale commercial publishing” (Ortega, 2020) and as such experimental publications are mainly supported and initiated by small, independent, not-for-profit (often scholar-led and institutional) publishing ventures (which themselves can be seen as experiments in more ethical and bibliodiverse forms of publishing). New modes of scholarship and publishing have taken advantage of the opportunities the digital medium offers and have relied heavily on the open availability of publications, data, and research findings. Yet digital works as such are not necessarily experimental (e.g. when digital publications simply mimic print forms and workflows) and the open availability of a work doesn’t make it experimental or open for further experimentation and reuse (due to copyright licenses, platform-enclosures, and other technological, social, and cultural barriers). See for example the adoption of open access models by commercial and legacy publishers, often using their own proprietary platforms and “open” licenses (placing restrictions on certain forms of (data) sharing, mining, and reuse). To support and promote experimental publishing, and to prevent the further corporate enclosure of both content and infrastructure, it is therefore crucial that publishing software, platforms, and infrastructures are also open (source), not-for-profit, and community-governed. Especially as experimental forms of publishing—in particular those that experiment with multimodal publications and new digital platforms and tools—highlight that content and form are entangled (in other words, our media forms, workflows, and infrastructures are never “neutral”) and that tools, technologies, media formats, and platforms are crucial agentic forces that have shaped our scholarly research and publishing practices (Ball & Eyman, 2015; Maxwell et al., 2019; Worthington, 2015).⁴

Crucially in the context of this essay, experimental publishing can also involve a rethinking and reimagining of the roles and relationalities involved in academic publishing (e.g., authorship, ownership, the publishing function) and how we organise knowledge production (e.g., its roles, functions, systems, processes, and workflows). This system has been organised predominantly in a linear way around the publication of fixed, closed, and copyrighted objects and commodities (the book, the article, the journal) and in support of Global North

⁴ In line with this, and to emphasise the political and socio-technical nature of publishing tools and infrastructures (Okune et al., 2018), the COPIM research included a mapping exercise of currently available open source software, tools, and platforms for experimental book publishing (Adema et al., 2022). Presses and authors can (in principle) either freely use these tools, technologies, and platforms or further adapt them within their research and publishing workflows. This mapping has been incorporated in the Experimental Publishing Compendium (which I will discuss at the end of this paper), alongside examples of experimental books and experimental publishing practices.

epistemologies and value systems, and liberal humanist authorship functions. Experimental publishing has the potential to question these relationalities, where experimental and multimodal digital works “involve far more complex, non-linear, and iterative processes and require a close collaboration from an early stage of conceptual work” (Mrva-Montoya, 2015, p. 337). This also involves reimagining the role of the publisher and other agencies within our academic institutions (e.g., librarians—as I will discuss in the next section—technologists, editors, designers) as these tend to play a different and often much more involved role in developing digital projects than they do in print ones (Maxwell et al., 2017). Kral and Worthington therefore talk about experimental publishing within the post-digital condition “blurring the distinction between the publishers workflow and the scholars textual creation,” which for them also means “an expansion of the very definition what constitutes a publication” (2014).

Findings

Next to changes to the publishing workflow and changing relationships between presses and authors and the other agencies involved in knowledge production, experimental forms of publishing also often involve and promote closer collaborations with other scholars and scholarly communities and the general public. The COPIM research therefore looked closely at projects and publications, as well as technologies and cultural strategies, that promote interactions with and reuse of research. This includes building communities and conversations around content and collections via annotations, comments, and post-publication review (e.g., via the social annotation platform *hypothes.is*) to enable more collaborative forms of knowledge production, aspects and features that, as I will come back to in the second part of this essay, could enhance more socially just, equitable, and bibliodiverse engagements around texts. The COPIM research identified several types of scholarly interaction around books that open access research affords, including *open annotations*, *open peer review*, *remix* and *reuse*, and *open and social scholarship*, alongside several *emergent practices* (including versioning). I will shortly outline some of the opportunities these practices offer to promote interaction and community-forming around books.

Open annotation

Open annotations are readerly or writerly interactions that consists of notes (in any medium) added to open texts (of any medium), which can be likened to a conversation between authors and their audiences (Bertino & Staines, 2019). Although annotation does not come without power relations and workload and reward issues that determine who gets to annotate, as Kalir and Garcia argue, annotation is essential to developing *knowledge communities*, where collaborative annotation can be seen as an important social practice within these communities “to make their research processes more transparent, to participate in peer review, and to communicate with various publics” (2019). Yet annotations can

also facilitate a more “seamless integration of research materials and scholarly analysis” (McPherson, 2010) by more closely linking commentary and the object studied, allow for corrections and updates, enable inline (open) peer review, augmentation of publications with additional (multimedia) information, connections to related resources, further context around citations, opportunities within pedagogical settings, and semantic applications (Bertino & Staines, 2019). Montgomery et al. see annotation as an opportunity to “socialize the process of knowledge creation” by extending the “collaborative spirit” from authorship out to review and revision (2018). Open annotation thus foregrounds social processes of authorship while questioning the nature of authorial authority and the fixity of the published object, pointing to a level of liquidity and intertextuality within a publication (Adema, 2018, p. 72). Next to standalone annotation software, increasingly publishers are accommodating annotation on top of their open collections or on specific open titles, and annotations (either in the authoring environment or the reading environment) are also becoming a standard feature of long-form digital publishing platforms, from CommentPress to Manifold, Scalar, and PubPub.⁵

Open peer review

The digital environment prompts questions about authority in an online setting, while at the same time offering potential opportunities to improve the evaluation and development of scholarship. This has led to various experiments with open peer review or practices that rethink how we conduct quality evaluation of or filter online research content. Open peer review can be facilitated through open annotations, whereby researchers are invited to critique a work published online (pre or post formal publication) on the same online platform using line-by-line commentary. Within the humanities, beyond evaluation, gatekeeping and quality control, review practices have been equally or more focused on constructive and formative review and on community knowledge production (Knöchelmann, 2019). Without disparaging the power relations at work in forms of open peer review, these forms of open dialogue or “community-based authorisation” (2009, p. 128) as Fitzpatrick calls it, could make potential biases and assumptions (in the often secretive and opaque process of blind peer review) more transparent (Eve, 2014, pp. 138–139) and contribute to more equitable and collegiate methods of assessment. Open peer review also offers improved options for the evaluation of digital scholarship, which requires a reassessment of our common linear publishing and evaluation workflows, particularly because digital

⁵ CommentPress: <https://futureofthebook.org/commentpress/>

Manifold: <https://manifoldapp.org/>

Scalar: <https://scalar.me/anvc/scalar/>

PubPub: <https://www.pubpub.org/>

scholarship is “often collaborative,” “rarely finished,” and “frequently public” (Risam, 2014).⁶

Remix and reuse

Remix and reuse lie at the basis of the research and writing process as scholars build upon the writing, works, and arguments of others when they cite, reference, critique, analyse and reuse existing sources, making “derived use” fundamental to how scholarship progresses. Remix in academia is known under different names, from adaptation and appropriation to open licensing, capturing modifications, derivatives, fair use, and transformative uses of texts, data, and resources. In academic publishing it can include republications, translations, and the adaptation of books to new media (e.g., audiobooks) as well as the incorporation or mixing and sampling of different forms of media content (e.g., texts and images or videos), including those derived through data mining or reuse (to create visualisations or media libraries or to adapt graphs, images, or diagrams). Digital technologies afford the opportunity to reuse publications in different ways, yet this relies on research being openly licensed to enable reuse, e.g., via Creative Commons licenses that allow (commercial) reuse or derivatives within academic publishing, or in an open education context via *Open Educational Resources* (OER) licensed to be freely available for reuse by others. More experimental practices include those in which open texts, images, or videos (e.g., vidding) are cut or mashed up, or allow audiences to do so, as a form of critical engagement with the source texts or to promote more equitable and collaborative forms of knowledge production. Scholars also experiment with reuse and remix as a critical practice *to challenge* existing liberal humanist copyright regimes and established ways of doing and publishing research and the connotations of individual authorship, originality, and ownership that comes with this.

In the context of indigenous or community knowledge, reuse needs to be handled ethically and with care, where “questions of ownership, control, access, and possession (OCAP) of intellectual property and cultural materials are key considerations for Indigenous communities, who since the time of contact with settler populations have seen their cultural content stolen, misappropriated, and misrepresented” (Cullen & Bell, 2018, p. 199). Yet indigenous and traditional knowledge is often audio-visual and, as Cullen and Bell state, there is a pressing need here “for a different kind of publishing, both for collaborative authorship and for more flexible, interactive publications” (2018, p. 198). Several experimental publishing projects and practices have been exploring how to make

⁶ For example, common linear publishing and evaluation workflows might need to be adapted to accommodate versioned and processual books, which would involve less assessment, validation, or gatekeeping, and more feedback or continual review at different points of the research process to roll into the digital project's next phase.

traditional and indigenous knowledge accessible and reusable while accommodating its cultural and access protocols, which determine if and how that knowledge can be (re) used and circulated, by whom, and under which conditions (Christen, 2012), e.g., by co-designing contracts with indigenous communities and by using open licensing such as Traditional Knowledge Licenses (Okune et al., 2018).

Open and social scholarship

One key reason to publish openly is to improve engagement with research and make connections to related scholarship. Opening up scholarship should therefore involve making sure that publications are networked more directly and that conversations around scholarship can arise across disciplines, including the general public. How then can we facilitate “social knowledge creation, public engagement, and broad collaboration” in a move from open access to open, social scholarship, or scholarship that is more socially engaged (Arbuckle, 2019)? Social media and Social Research Sharing Networks have been very influential in this context to increase social interactions and conversations around research (making connections to publications via hyperlinks and tags), as has the increased open and networked state of our knowledge, which has enabled us to create communities around our scholarship (Fitzpatrick, 2011; Hyde, 2016; McHardy, 2021). As Maxwell argues in this respect “publication is not making things available to a pre-existing public; it is the very constitution or gathering of that public”. In this respect, there is a need to locate and situate research within the social network and to “re-inscribe the relation between works, publications, and discourse more broadly” (2015).

Versioning and processual publishing

Versioning, also known as processual, iterative, or continuous publishing, was pioneered within science, technology, engineering, and mathematics (STEM) fields with the use of preprints and postprints. As used within research and publishing, it “refers to the frequent updating, rewriting, or modification of academic material that has been published in a formal or informal way” and has affinity with software development, where it refers to the various instalments of a piece of software (Adema, 2021, p. 21). Increasingly open publishing platforms in the humanities have started to incorporate versioning and options to update and revise works. PubPub and Manifold are two key examples here of platforms that allow material (text, data, sound, video) to be added to a publication as it progresses or is iteratively published. With the possibility to keep changelogs and previous versions available, the modifications, interactions, comments, annotations, and updates to publications can become more visible, which offers possibilities to highlight the co-creation of and engagement with scholarship.

Discussion

The above-mentioned examples of experimental publishing and experimental publishing practices make us rethink how scholarly communication and publishing is currently set up, organised, and conducted, while offering imaginaries for more ethical and bibliodiverse forms of publishing and for increased interaction with and collaboration around research. In this next section I want to do two things. First of all, I want to reflect on the role librarians and LIS curricula can play in promoting experimental publishing and in nurturing and facilitating interactions with openly available books. I will do so by positioning this activity as an extension of the traditional role of librarians to promote interactions and engagement with research, and as something that lines up with the increased focus on scholarly communications services within libraries. Promoting interaction and engagement with research can be seen as essential to improving access and accessibility of research, to the creation of communities around research, and to the advancement of social and epistemic justice. Secondly, I will reflect on the growth of libraries as publishers, and the key role library presses have played in promoting open access and innovative forms of publishing.

To do so, I will build on an article in the *Journal of Librarianship and Scholarly Communication*, in which Jaya Raju reflects on the relationship between the scholarly communications field and university libraries and LIS education in South Africa and on the African continent. Raju concludes that library professionals, as well as the LIS education curriculum, need to take steps to more fully embrace and adapt to this evolving and emerging field “in an age where scholarly communication has proliferated in academic library services” (2019, p. 2) and “technology advancement such as digitization has revolutionized the scholarly communication system” (2019, p. 5). Following Raju, I want to argue that librarians and the LIS education curriculum can play a key role in two aspects of scholarly communications in specific, namely in promoting experimental publishing and in nurturing and facilitating interactions with openly available books.⁷

Extending the roles of librarians

Jaya Raju's analysis of the competency and services expectations listed in job advertisements by university library employers in South Africa, clearly evidences how the roles of librarians are changing and expanding to include a significant presence of scholarly communication requirements (2019, p. 20). Kenney, in a United States (US) context, similarly sees the

⁷ At the same time experimental publishing can be seen to complicate some of our common understandings (including several of the scholarly communication models which Jaya Raju cites in her article) of what scholarly communication is or does and the functions it fulfils, where these models focus mostly on research as fixed and static outputs, a linear development from research to published outputs, and a clear division between research and publishing. There is also a lack of focus in these models on the agency of the material infrastructures and digital tools used within knowledge production.

expansion of librarians' roles to include scholarly communication services as "a natural extension of efforts to embrace a full spectrum of services from creation to curation" (2015, p. 386), while Walker, in a United Kingdom (UK) context, talks about librarians offering more holistic open research support services with support across the research cycle (2020, p. 8). Norris et al. highlight that scholarly communication has "always been integral to the services and resources available through libraries and facilitated by information specialists" (2020, p. 268), which is further supported by Lippincott, who outlines how libraries have been shifting their roles on campus by leveraging their existing skill sets and infrastructures to support scholarly communication needs driven by campus demand (2016, p. 186). She points out how these demands alongside technological developments means that librarians need to rethink their role within knowledge production, positioning them as "active partners in the creation and dissemination of research" (Lippincott, 2017, p. 3).

Jaya Raju similarly highlights that advancing digital technologies have accentuated the more active support and contribution of librarians to knowledge production in more recent years (2019, p. 20). As she concludes however (based on her research in South Africa, but she shows how this is part of a global trend), these changes in the roles of librarians notwithstanding, and even though universities in South Africa are "actively embracing new and emerging trends in scholarly communication" (J. Raju, 2019, p. 22), LIS curricula are not keeping up. An expansion of training is needed to address a knowledge and skills gap and a slowness to adapt to the needs of university libraries, while these themselves will need to respond to this skills gap "by using continuous professional development opportunities to redefine existing positions and reskill for new roles" (J. Raju, 2019, p. 22).

Experimental publishing expertise is a core skill in this context, as it draws on and extends existing skill sets and roles of librarians (especially of liaison and scholarly communications librarians, as I will discuss next), but also in how it questions what scholarly communication is and does, and what these established roles are. Reassessing what scholarly communication is and can be, towards more communal forms of knowledge production that are more interactive, processual, and collaborative, might pave the way for more ethical and locally relevant forms of research, while at the same time posing opportunities for librarians to be more strongly embedded within knowledge production and to help researchers think through how to best share their research.

For example, as Norris et al. outline, liaison librarians would be well positioned to incorporate additional scholarly communication roles, as their depth of knowledge in a particular subject area and the potential to provide subject-specific (instead of generalised) examples provides valuable context when discussing scholarly communication topics with faculty. As they explain, "liaison librarians work to build strong relationships with

faculty and students in their respective subject areas. These relationships help provide opportunities for continued engagement and facilitate critical conversations about scholarly communication” (2020, p. 272). Kenney reminds us in this context how liaisonship is all about library relationship building and engagement and this might involve actively advancing new scholarly practices (2015, p. 389). Kenney outlines how this could add to the movement within many US libraries from a collections-centric to an engagement-centred model of librarianship, with the library functioning as a “critical component in the scholarly communications infrastructure” (2015, p. 386). Norris et al. further see the emerging role of scholarly communications librarians and library units as a particularly important trend while simultaneously “liaison librarians have seen an increased emphasis on scholarly communication in their position descriptions and areas of responsibility” (2020, p. 270). Even more, Norris et al. argue scholarly communication has always been at the centre of library services and resources, while liaison librarians have been “engaging in outreach and have been providing support on such topics well before it was an identified area of responsibility” (2020, p. 280). While we should be mindful of expectations and responsibilities, workload, and existing expertise, there are thus clear opportunities, they state, for liaison librarians to engage with and incorporate scholarly communication activities and to collaborate with scholarly communication librarians and other units at their institutions. Stapleton echoes this, especially in relation to how liaison librarians can collaborate with publishing service teams at libraries to respond to publishing enquiries (2019, p. 22).

Advancing social and epistemic justice

Next to fitting in well with changing demands on libraries to support the scholarly communications needs of their faculty by adapting and extending roles and services, experimental publishing can be seen to line up with some of the key missions and values of academic libraries to decolonise knowledge and to support bibliodiversity. For one, experimental publishing and increased interactions with and around open books can potentially further promote the advancement of social justice and epistemic equity. As Reggie Raju et al. describe it, social and cognitive justice involves the dismantling of structures that perpetuate exclusion, inequality, and inequities within the research and publishing landscape in scholarly communication by both examining and critiquing them and by developing alternatives to them “that contribute to the promotion of equity, inclusion and diversity” (2023, pp. 2–3). This is very much in line with how experimental publishing or publications, as I have described in the previous section, set out to both critique and reperform our hegemonic, humanist, and universalist knowledge systems, to both expose biases in this system and to promote its diversification.

Chan et al. outline how cognitive justice can line up with an extended vision of open science (beyond open access), which involves an openness or an opening up to excluded forms of knowledge by including more ways of knowing, providing equitable access to scholarly literature, opening research up to society and social movements, enabling open access to both research and data, and promoting more bibliodiverse publishing options, amongst others (2020, p. 10). These marginalised and indigenous knowledges have been excluded from conventional science and similarly the notion of collective rights in knowledge they put forward has been overlooked, also within the mainstream open access debate, where this, as Chan et al. state, complicates (Western) conceptions of openness (2020, p. 9). These knowledges often suffer from exploitative research relationships, where Albornoz et al. describe how guides and tools, safeguards and governance structures to protect indigenous peoples rights and sovereignty are crucial, in an attempt to explore how “we can create systems in which we may open up and simultaneously protect the knowledge of vulnerable populations” (2020, p. 69). Publishing experiments with new forms of licensing for (open access) books in relation to indigenous forms of knowledge (e.g., Traditional Knowledge Licenses), can help protect and implement OCAP (Ownership, Control, Access, Possession) principles in relation to data and knowledge sharing. Similarly, experimental publishing platforms such as Mukurtu (a digital anthropological platform) have been developed to better support and implement this. Overall, experiments with open peer review, collaborative authorship and knowledge production, and increased community interactions around books, can contribute to the considerations or recommendations made by Chan et al. to support participatory research or the co-creation of knowledge for and with communities as an extension of or broadening out of openness, beyond open access to principles of “fair and decolonial open science” (2020, p. 11).

Experiments with new forms of licensing enabling different types of interaction around knowledge and data, could be an important step towards more situated forms of openness (Albornoz et al., 2020, p. 67) in this context and practices of critical (Drabinsky, 2019) or “progressive” librarianship—as Mutonga and Okune position it using the concept developed by Shiraz Durrani—could play a valuable part in this. Mutonga and Okune see a significant role for progressive librarianship in attempts to decolonise libraries in ways that avoid getting caught in a culture of “forget and move on” (2021, p. 190). Therefore for them, decolonising libraries in a move towards epistemic justice means not only addressing the legacies of colonialism, but also (following historian Robin Kelley’s study of the alternative visions of freedom held by various black radical movements) (re)collecting radical collaborative imaginings of alternative futures, amongst others by setting up more just and equitable knowledge infrastructures that provide space for “archiving and sharing histories of resistance and subversive politics” (Mutonga & Okune, 2021, p. 197). Ensuring the right technical infrastructure exists to provide the contextual critical

commentary and metadata connected to these artefacts is crucial, they state—and experimental forms of publishing could assist librarians with exploring how this could be best presented and preserved. Community-owned and controlled knowledge infrastructures are key, they argue, instead of leaving the curation of one's national memory to commercial and external foreign partners: infrastructuring is essential to decolonisation, where “the question of decolonising knowledge, then, is also one of decoupling from infrastructures owned by private Euro-American corporations” (Mutonga & Okune, 2021, pp. 206–207).

Mboa Nkoudou points out that another important move to combat the colonality of knowledge, especially in an African context, relates to how African researchers struggle to share local scientific productions due to the lack of local green and gold OA options, where local epistemologies are often replaced by Western paradigms used to describe local realities in a process of epistemic alienation (2020, p. 32). Open access only accentuates this problem, he states, as it makes Global North publications more visible and increases interactions with them. As such, as Albornoz et al. state, it “can amplify the overrepresentation of knowledge produced by Northern actors and institutions and further the exclusion of knowledge produced by marginalized groups,” i.e., open research practices may replicate epistemic injustices (2020, p. 65). Reggie Raju and Badrudeen argue in this context for the importance of “an African research agenda shaped by local challenges in the quest for equity and inclusion,” decolonisation of the scholarly ecosystem, and a nurturing of the next generation of African researchers (2022, pp. 52–53). What is needed to achieve this is inclusive participation by Global South researchers in knowledge creation and “open access practices and policies that enhance sharing of African scholarly output for the generation of new knowledge for use by Africa and the rest of the world” (R. Raju & Badrudeen, 2022, p. 53). Mboa Nkoudou argues for a two-fold approach to “decolonize the way of thinking and redesign OA to make it more relevant to the African context,” which involves facilitating and promoting the creation of more socially relevant and situated knowledge in a local context (2020, pp. 35–36). Crucially, and in line with what I have argued above in relation to experimental publishing questioning the use of fixed and stable book objects as the best way to share research ideas in all circumstances, Mboa Nkoudou argues that in this context we should explore alternative ways to communicate research “aside from a traditional, published journal article”. This, because “African scientific knowledge is mostly found in the grey literature (theses, dissertations, and research reports)” which are rarely online or freely accessible and invisible in Northern databases (Mboa Nkoudou, 2020, p. 36). Additionally, Mboa Nkoudou points out “that younger scientists are using blogs and wikis for collaborative research development rather than the more competitive mode of research production to which older researchers are accustomed” (2020, p. 37). Reggie Raju and Badrudeen similarly argue in this respect how bias in scholarly communication is also about what is accepted in form, e.g., see Global North

journals which (quoting Kwasi Boahene) “serve a particular purpose and audience and, therefore, select researchers and research writings that fit that perspective” (2022, p. 54).

Libraries as publishers

One of the main changes to the role played by libraries in a context of digital scholarly communications has been the growth of libraries as publishers over the last decades, and, as part of this development, the key role library presses have played in promoting open access and innovative forms of publishing (Lippincott, 2016; R. Raju & Pietersen, 2017). Likewise, experimental forms of publishing (e.g., more processual forms of publication) are breaking down traditional demarcations between research and publishing and with that are questioning the roles of researchers, publishers, and editors. What does this imply for the role and function of the library in these changing scholarly communication and publishing models?

Lippincott states that the US Library Publishing Coalition’s (LPC, founded in 2013) definition of library publishing struggles with establishing clear boundaries of what constitutes library publishing. Crucially though, as a publishing model that sits apart from the big commercial presses, university presses, learned society publishing, and/or scholar-led publishing, part of LPC’s definition focuses in on how library publishing has “a preference for Open Access dissemination as well as a willingness to embrace informal and experimental forms of scholarly communication and to challenge the status quo” (Lippincott, 2016, p. 187). Stapleton argues that library publishing supports a more ethical publishing model, beyond profit, where “with institutional or grant financial support, library publishing may be more flexible to develop an ideal publishing model, relatively free from cost recovery and profit motivations” (2019, p. 21). Ma et al. also indicate it “plays an important role in maintaining bibliodiversity by providing venues for research and scholarship overlooked by traditional publishers, especially works in the humanities and humanistic social sciences” (2023, p. 5) and also by ensuring equitable access of local knowledge to students (R. Raju et al., 2023, p. 7).

For many, library publishing, as a move from collecting to publishing or creating content, is seen as a natural extension of the role of the library and librarians as part of its scholarly communication services (J. Raju, 2019, p. 8) and it can be seen as a way to “connect more deeply with faculty” (Kenney, 2015, p. 387). It builds on existing strengths within the library, “leveraging their existing skill sets and infrastructures” including, as Lippincott outlines, “library services aimed at creating and stewarding digital content, such as data curation services and digital scholarship centers” (2017, p. 16), where there is also much technical expertise in libraries (especially in the US) around coding, design, and web publishing, alongside knowledge of the scholarly publishing landscape

and access to and discovery of resources.⁸ As Stapleton states, “libraries today are using technology to expand the concept of knowledge management beyond content organisation to provide greater support of the entire publishing lifecycle” (2019, p. 17).

Reggie Raju and Pietersen see libraries as being in a state of revolution, “moving away from being supporters of the research process to being collaborators in that process” and argue for them being more proactive in providing new services in an African context in specific, as library publishing “will contribute positively to African researchers becoming significant contributors to the world’s knowledge production” (2017). Library publishing offers opportunities for a “social justice–driven scholarly ecosystem that will be inclusive of African research voices” (R. Raju & Badrudeen, 2022, p. 58), crucial to addressing the systemic inequalities of the Global North-dominated publishing ecosystem and the commercial takeover of open access. It also offers community control of knowledge production and provides “African scholars and researchers unhindered participation (limit bias) in the dissemination of scholarship” (R. Raju et al., 2023, p. 6). For example, library publishing services such as the African Platform for Open Scholarship, a diamond open access publishing alternative developed by the University of Cape Town (UCT), support the publication of open monographs and open textbooks to “meet the need for more local and decolonised content” (R. Raju & Badrudeen, 2022, p. 55).

Library publishing has and can play an important role in promoting experimental publishing, where, as Lippincott outlines, “pushing the boundaries of what is considered publishing may in fact be one of library publishing’s greatest strengths (...) libraries explicitly embrace experimental publications, media-rich content, and content that is otherwise neglected” (2017, p. 51). As Lippincott argues, the suite of publishing services library publishers provide are focused predominantly on facilitating content creating and sharing, often utilising a lightweight, lowcost, and agile workflow. This provides them with a lot of flexibility to support alternative open access publishing models as well as the publication of Digital Humanities (DH) work, data, and gray literature.

The lack of support for emerging formats and the integration of multimodal content by legacy publishers still relying on print production requirements, has been an important factor in the development of library publishing: “commercial scholarly publishers and university presses have not provided solutions for publishing vast quantities of significant scholarship in the form

⁹ Not all libraries should or can become publishers of course, Lippincott outlines, as it does mean an investment of library resources in times of budget cuts and often involves reallocating staff time. Libraries can also support publishing in different ways, for example through consortial funding of more ethical and bibliodiverse publishing endeavours (2017, pp. 32, 49).

of gray literature, data, learning objects, digital humanities projects, and other nontraditional forms of scholarly and creative output” (Lippincott, 2017, p. 9). This includes support for more “niche and experimental Publications,” where Lippincott argues that library publishers have “found a niche in catering to publications that break the mold,” as they embrace “projects with limited readership and unconventional subjects and seek out high-quality content, regardless of its format or the logistical challenges of publication” (2017, p. 12).

Lippincott states that there is an array of formal and informal publications that scholars use to advance discourse, which often lack proper dissemination channels, despite their merit (from blogs to zines and digital scholarship, which often lack “official” metadata markers such as ISBNs).

Here the flexibility and agility to support these publications that library publishers have “without the pressures of generating revenue or increasing efficiency,” is crucial, as “for these custom, often highly technical projects, libraries see an advantage in being small and entrepreneurial. Large commercial publishers benefit from economies of scale, but large publishing portfolios can also necessitate standardization and a lack of flexibility” (Lippincott, 2017, p. 13). Lippincott also mentions the technical support from “a fleet of emerging open source platforms” to support experimental and digital publishing, from Scalar and Manifold, to Vega and Fulcrum (2017, p. 30). In this sense, as she states, libraries are much more flexible to support the dynamic evolving publishing needs of scholars and their “tolerance for experimentation means that new projects can be launched without intensive assessment and planning. New publications can get off the ground with minimal lead time and evolve over time in response to successes and failures” (Lippincott, 2017, p. 14).

Conclusion and recommendations

In this essay I have reflected on different ways in which librarians can promote experimental publishing and nurture and facilitate interactions with openly available books. Connecting this to Jaya Raju’s call (2019) for library professionals, as well as the LIS education curriculum, to more fully embrace the changing (digital) scholarly communications needs of faculty as well as demands for increased scholarly communications services within libraries, I similarly made the argument that librarians and LIS curricula are ideally positioned as part of this adaptation, to focus more on promoting experimental publishing and interactions around books.

One resource that I would like to put forward here—which would be particularly useful to include in LIS curricula and professional development courses (alongside inclusion in LibGuides,⁹ in course reading lists, in subject guides, and research guides), as it brings together current and up-to-date resources, examples, and practices related to experimental publishing—is the Experimental Publishing Compendium. The Compendium (Adema et al., 2023), compiled and maintained by COPIM’s Experimental Publishing Group, is a guide and reference for scholars, publishers, developers, librarians, and designers who want to challenge, push, and redefine the shape, form, and rationale of scholarly books. The Compendium is the outcome of an extended and collaborative research process, which has culminated in a practical resource for the academic community to help authors, publishers, and others involved in knowledge production, to get started with experimental, multimodal, and practice-based publishing projects, or to support their faculty or students in doing so. The linked entries in the Compendium inspire speculations on the future of the book and the humanities more generally and encourage publishers and authors to explore publications beyond the standard printed codex format. As a resource and toolkit, the Compendium gathers and links tools, examples of experimental books, and experimental publishing practices with a focus on free and open-source software, platforms, and digital publishing tools that presses and authors can either use freely and/or further adapt themselves to their workflows. The tools, practices, and books listed in the Compendium are linked together, showcasing the relationships between a book and its processes of production and publication, offering an alternative, more associative way to engage with the Compendium. Each experimental book listed in the Compendium is in this way connected to the tools used in its production or presentation and to the experimental publishing practices that relate to this publication or that it embodies. Experimental publishing practices capture ways of interacting with and relating around open and experimental books and include practices such as collaborative writing, annotating, remixing, reviewing, translating, and versioning. Each practice listed in the Compendium is accompanied by a short essay that situates it and how it relates to experimental publishing, highlighting examples of how the practice is or can be experimental and can support experimental publishing. The Compendium acts as a guide for both experienced practitioners and those just setting out to experiment with the forms, content, and practices of scholarly bookmaking, and as such can offer an important resource for librarians to promote and make available to their faculty and (postgraduate) students, and to be included LIS curricula to contribute up-to-date information about available experimental publishing resources, while providing the latest insights into how the scholarly communications system is changing and developing.

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SECTION C

**Scholarly
communication and
social justice within
an LIS disciplinary
framework**

A Scoping Review of Two Decades of Research on Scholarly Communication and Social Justice in Library and Information Science in Africa

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Abstract

Scholarly communication and social justice have increasingly become central themes in library and information science (LIS) research, particularly in Africa, where systemic barriers to knowledge access and dissemination persist. This essay presents a scoping review of two decades (2004–2024) of research on scholarly communication and social justice in LIS in Africa, analyzing trends, challenges, and emerging interventions. Using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Extension for Scoping Reviews Checklist, this study systematically mapped the literature across nine academic databases, retrieving an initial 4,406 records. After title, abstract, and full-text screening, as well as the application of inclusion and exclusion criteria, 236 essays qualified for the final dataset analyzed to identify dominant themes and key contributions. The findings indicate that LIS professionals in Africa have played a critical role in advancing social justice through scholarly communication initiatives, advocating for policy reforms, and promoting digital inclusivity to bridge knowledge inequalities. However, significant challenges persist, including information poverty, limited research funding, linguistic inequalities, digital infrastructure deficits, and restricted access to scholarly information due to high publishing costs. The review also highlights successful interventions, such as African Journals Online (AJOL), the African Open Science Platform (AOSP), institutional repositories, and collaborative regional initiatives, which have fostered greater knowledge equity and accessibility. This study underscores the need to develop policies that integrate social justice principles into scholarly communication, to strengthen curriculum alignment, enhance regional collaborations, and invest in open-access infrastructure.

Keywords: scholarly communication, social justice, library and information science, scoping review, Africa

Introduction

Over the past two decades, scholarly communication and social justice have emerged as critical themes in Library and Information Science (LIS) research, particularly within the African context. The intersection of these two concepts reflects broader discussions on access to knowledge, equity in information dissemination, and the role of libraries and library professionals in addressing social inequalities. However, given that scholarly communication serves as the backbone of academic inquiry, that enables the sharing, evaluation, and preservation of knowledge across disciplines (Claassen, 2024), it sometimes worsens global inequalities, highlighting the critical need for social justice to ensure inclusivity and equity in the dissemination of knowledge (Ford & Alemneh, 2024; Abbott, 2024). The concept of scholarly communication has been generally defined as a system involving activities such as publishing research in journals and sharing ideas through online platforms (Mullen, 2024). More significantly, the concept of scholarly communication has been significantly influenced by digital transformations, open access movements, and evolving publication models (Adakawa, 2022).

Conversely, although there are many definitions of social justice as a concept with a focus on eliminating privilege, marginalization, and upholding human rights (Cooke et al., 2016), it also emphasizes the need to ensure that information systems, policies, and practices promote inclusivity, diversity, and equitable access to knowledge in the field of LIS (Mathiesen, 2015; Durodolu & Oladokun, 2024). Generally, equity in scholarship stems from the fact that access to academic resources remains deeply unequal worldwide (Oldac et al., 2024). Traditional publishing systems often favor researchers and institutions in the Global North, where the largest academic publishers are based (Collyer, 2018; Köbli et al., 2024). These systems mostly prioritize English-language scholarship and Western-centric research topics and journals, sidelining contributions from the Global South (Roh et al., 2020). Even when researchers from the Global South, particularly Africa, manage to meet the rigorous academic and editorial standards required to publish in high-impact Open Access (OA) journals based in the Western world, they often face another significant hurdle which is termed as high Article Processing Charges (APCs) (Nwagwu, 2023). These fees, which can range from hundreds to several thousand dollars per article, create a financial barrier that excludes many African scholars from participating in Open Access publishing, despite its goal of democratizing knowledge (Borrego, 2023; Nabyonga-Orem et al., 2020).

Nevertheless, in LIS, scholarly communication extends beyond simply providing access to resources. It encompasses advocacy for open access, promoting the visibility of marginalized voices, and supporting the creation of knowledge that is freely accessible to all (Jaeger et al., 2011).

Similarly, social justice in LIS focuses on ensuring that information services and resources are accessible to everyone, regardless of their socio-economic status, ethnicity, geographic location, or institutional affiliation. Indeed, open access (OA) publishing is widely celebrated as a transformative movement in academic publishing, that aims to remove financial barriers and make research freely available to all (Drescher, 2022).

Yet, while open access is expected to remove the cost of accessing academic materials, it does not inherently lead to equal participation or recognition in scholarly communication (Mullen, 2024). Several structural, economic, and systemic factors continue to create disparities in academic publishing and knowledge sharing. Thus, as Tennant and colleagues put forward, since each region worldwide faces unique open access challenges, initiatives must go beyond simply providing free content (Tennant et al., 2016). Instead, there should be an active promotion of more inclusive and equitable participation in scholarly communication, that addresses the specific needs of each region. For instance, recognizing African researchers' challenges, the 2023 Cape Town Declaration on Open Science advocates a continental framework to promote open science, ensuring equitable participation, research access, knowledge sharing, and academic inclusivity. That said, while LIS scholars have explored scholarly communication and social justice, existing studies remain fragmented. There is a lack of comprehensive research synthesizing findings across regions. This scoping review analyzes major themes, methodologies, and findings from two decades of LIS research in Africa. It highlights key trends, uncovers gaps, and proposes future directions. The insights gained will enhance understanding of LIS as a catalyst for knowledge dissemination and social transformation, fostering inclusivity.

Methodology

This review is reported in accordance with the reporting guidance provided in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Extension for Scoping Review Checklist (Page, 2024). A scoping review method was chosen, because this type of review typically aims to map evidence on a broad topic (Khalil et al., 2024). The study follows the methodological framework described by Arksey and O'Malley (2005). The framework involves five-stages namely; (1) identifying the research question; (2) identifying relevant studies; (3) selecting studies; (4) charting and collating the data, and (5) summarizing and reporting the results.

Stage 1: Identifying the research question(s)

The research questions served as a framework for identifying, analyzing, and synthesizing relevant literature for this study. These were designed to ensure a comprehensive investigation of existing knowledge, to enable an in-depth understanding of the topic.

A total of four (4) research questions were formulated to direct the study, and to provide a clear path for assessing the current scenery, key contributions, challenges, and successful initiatives relative to scholarly communication and social justice in LIS in Africa. These are as follows:

1. What is the current state of scholarly communication in LIS, and how does it contribute to addressing social justice in Africa?
2. What specific roles do LIS professionals in Africa play in fostering social justice, particularly through curriculum alignment in LIS education?
3. What are the persistent challenges LIS professionals encounter in addressing social justice issues within scholarly communication practices in the African context?
4. What successful initiatives demonstrate the promotion of scholarly communication and social justice within LIS in Africa?

Stage 2: Identifying relevant studies

The foundation of any scoping review lies in the systematic identification, collection, and analysis of relevant literature related to the phenomenon under investigation (Dabengwa et al., 2023). As put forward by O'Brien and colleagues (2016), a thorough and well-structured literature search ensures that all pertinent studies, theories, and discussions are considered, to provide a comprehensive understanding of the topic. This process not only enhances the credibility of the study but also ensures that the review remains relevant, informative, and aligned with the research questions. For this study identifying the relevant literature involved two (2) main stages namely the selection of databases, and development of a search strategy.

Stage 2.1 Selection of databases

Selecting appropriate databases is a crucial step in any scoping review, as it directly impacts the comprehensiveness and quality of retrieved literature (Karunaratna et al., 2024). Using diverse databases ensures the inclusion of relevant studies from multiple disciplines, offering a well-rounded perspective (Pollock et al., 2021). As depicted in Figure 1, for this study, nine databases were carefully chosen: Aluka, Emerald, EBSCOhost, JSTOR, Scopus, Wiley Online Library, African Journals Online (AJOL), Google Scholar, and the Directory of Open Access Journals (DOAJ). This selection aimed to capture research across disciplines, ensuring diverse sources such as journal articles, conference papers, and book chapters were included.

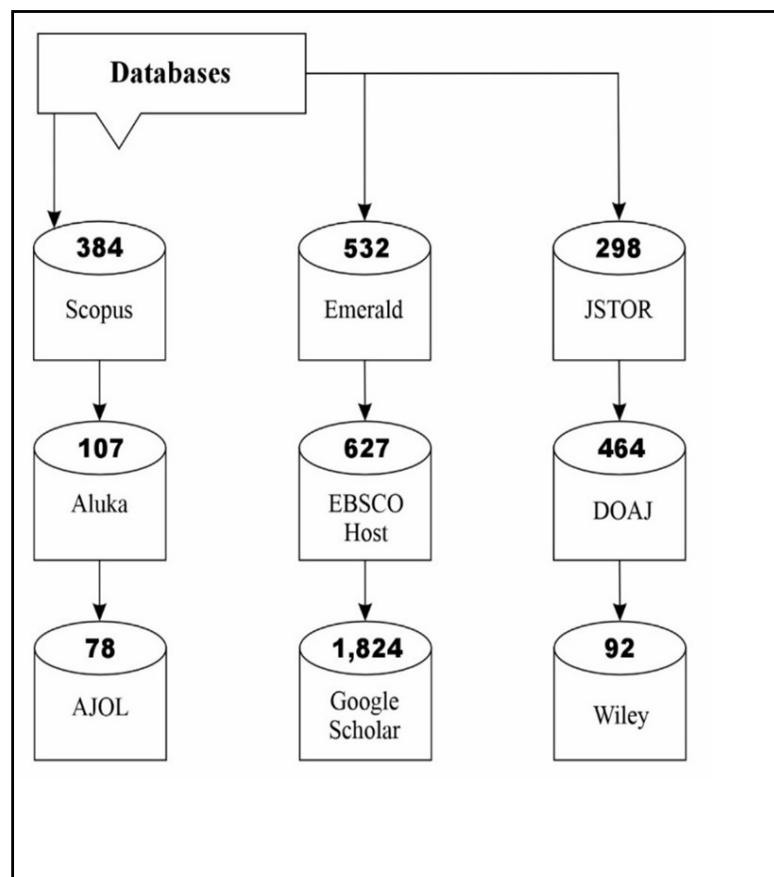


Figure 1: Selected Databases

Stage 2.2. Search strategy

To conduct a comprehensive literature search, a well-structured strategy was developed. First, key concepts central to the study were identified to ensure all critical aspects were considered. Relevant synonyms and alternative terms were then generated for each keyword to capture variations in terminology. Boolean operators (“OR” and “AND”) refined the search, with “OR” combining synonyms and “AND” linking key concepts. Given database-specific differences in search query processing, customized search strategies were developed for each database. This ensured the retrieval of the most relevant literature while accounting for structural variations across databases, enhancing the study’s depth and accuracy. The search strategy is outlined in Table 1.

Table 1: General search strategy

Search Lines	Search Strings
Search Line 1	“Scholarly communication” OR “academic publishing” OR “re-search dissemination” OR “open access” OR “scientific communi-cation” OR “knowledge sharing”
Search Line 2	“Social justice” OR “equity” OR “inclusion” OR “access to informa-tion” OR “information justice” OR “information equity” OR “social equity” OR “decolonization of knowledge” OR “knowledge divide” OR “information divide” OR “digital divide” OR “knowledge gap” OR “information access gap”
Search Line 3	“Library and information science” OR “LIS” OR “libraries” OR “information science” OR “information professionals” OR “library services” OR “digital libraries”
Search Line 4	Africa OR “Sub-Saharan Africa” OR “North Africa” OR “African countries” OR “South Africa” OR Algeria OR Angola OR Benin OR Botswana OR “Burkina Faso” OR Burundi OR Cameroon OR “Cape Verde” OR “Central African Republic” OR Chad OR Co-moros OR “Democratic Republic of the Congo” OR “Republic of the Congo” OR Djibouti OR Egypt OR “Equatorial Guinea” OR Er-itrea OR Ethiopia OR Gabon OR Gambia OR Ghana OR Guinea OR “Guinea-Bissau” OR “Ivory Coast” OR Kenya OR Lesotho OR Liberia OR Libya OR Madagascar OR Malawi OR Mali OR Mau-ritania OR Mauritius OR Morocco OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR “Sao Tome” OR Principe OR Senegal OR Seychelles OR “Sierra Leone” OR Somalia OR “South Sudan” OR Sudan OR Swaziland OR Tanzania OR Togo OR Tunisia OR Uganda OR Zambia OR Zimbabwe
Search Line 5	“Search Line1” AND “Search Line2” AND “Search Line3” AND “Search Line4” AND “Search Line5”

Stage 3: Selecting relevant studies

A comprehensive data retrieval strategy was implemented to systematically identify, assess, and include relevant literature. This step refined the selection process, ensuring that only studies meeting specific criteria were analyzed. The inclusion and exclusion criteria focused on studies that aligned with scholarly communication and social justice in LIS in Africa. Studies published between 2004 and 2024 were included to ensure relevance. Additionally, selected studies had to specifically focus on Africa, address LIS topics, and explore areas within scholarly communication and social justice.

Studies that did not meet these criteria were excluded. Hence, research unrelated to Africa was omitted, as the study examines LIS within the African context. Non-LIS studies were also excluded to maintain field relevance. Furthermore, studies lacking a clear focus on social justice in scholarly communication were not considered. Finally, non-English publications were excluded due to the researcher's limited expertise in other languages, which could affect accurate analysis. This approach ensured a well-defined dataset, enhancing the study's reliability and relevance.

Stage 4: Charting and collating the data

The process of data charting and collating involved three (3) phases to ensure the selection of relevant papers for analysis. These phases included (1) title screening, (2) abstract screening, and (3) full-text screening. The phases involved in this process are summarized and illustrated in Figure 2.

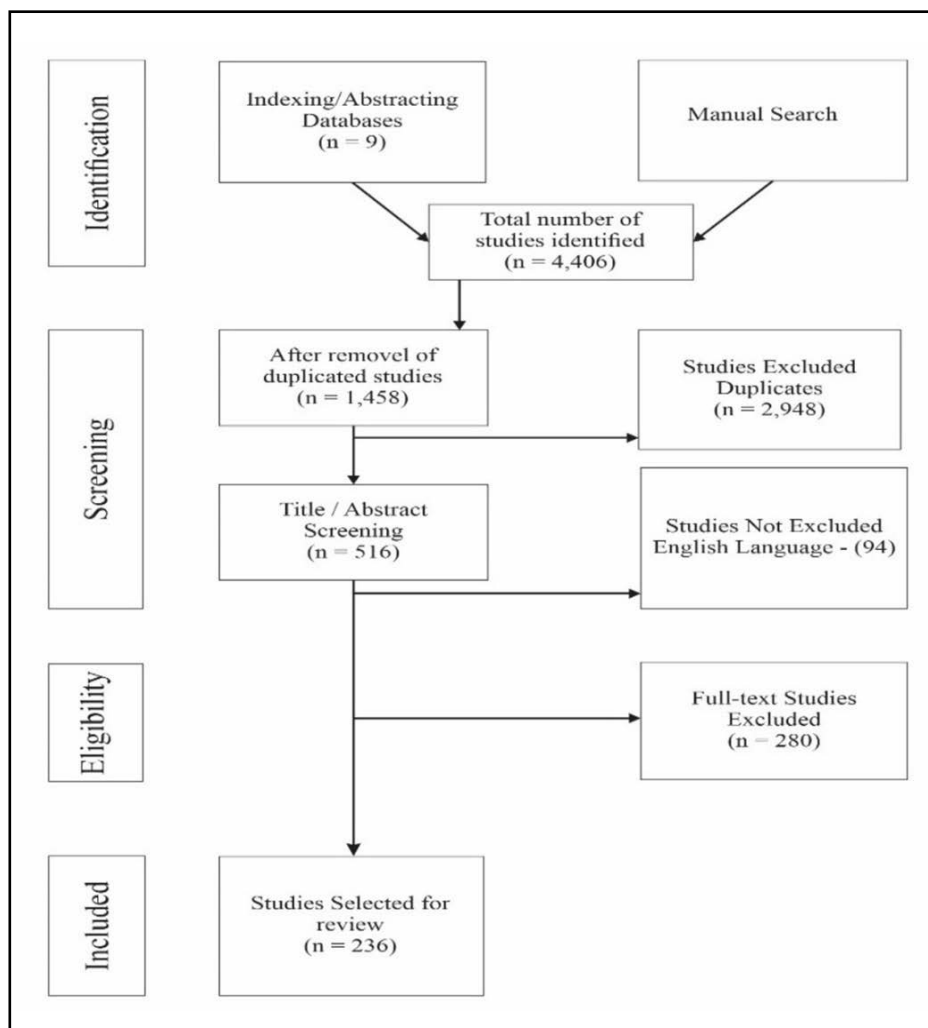


Figure 2: Summary of Search Collation Flowchart

Stage 4.1 Title screening

After applying the selection criteria, the next phase involved title screening. A total of 4,406 papers were retrieved from nine databases. Each title was reviewed for relevance to Library and Information Science (LIS), scholarly communication, and social justice in Africa. Articles that did not meet these criteria or were duplicates were excluded. After this screening, 2,948 articles were removed, leaving 1,458 articles for further assessment. This process ensured a focused and relevant dataset for the study's analysis.

Stage 4.2 Abstract screening

After title screening, abstracts of 1,458 papers were reviewed to assess their relevance. Studies not meeting the inclusion criteria were excluded. After this process, 516 papers qualified for the next evaluation phase, as shown in Figure 2.

Stage 4.3 Full-text screening

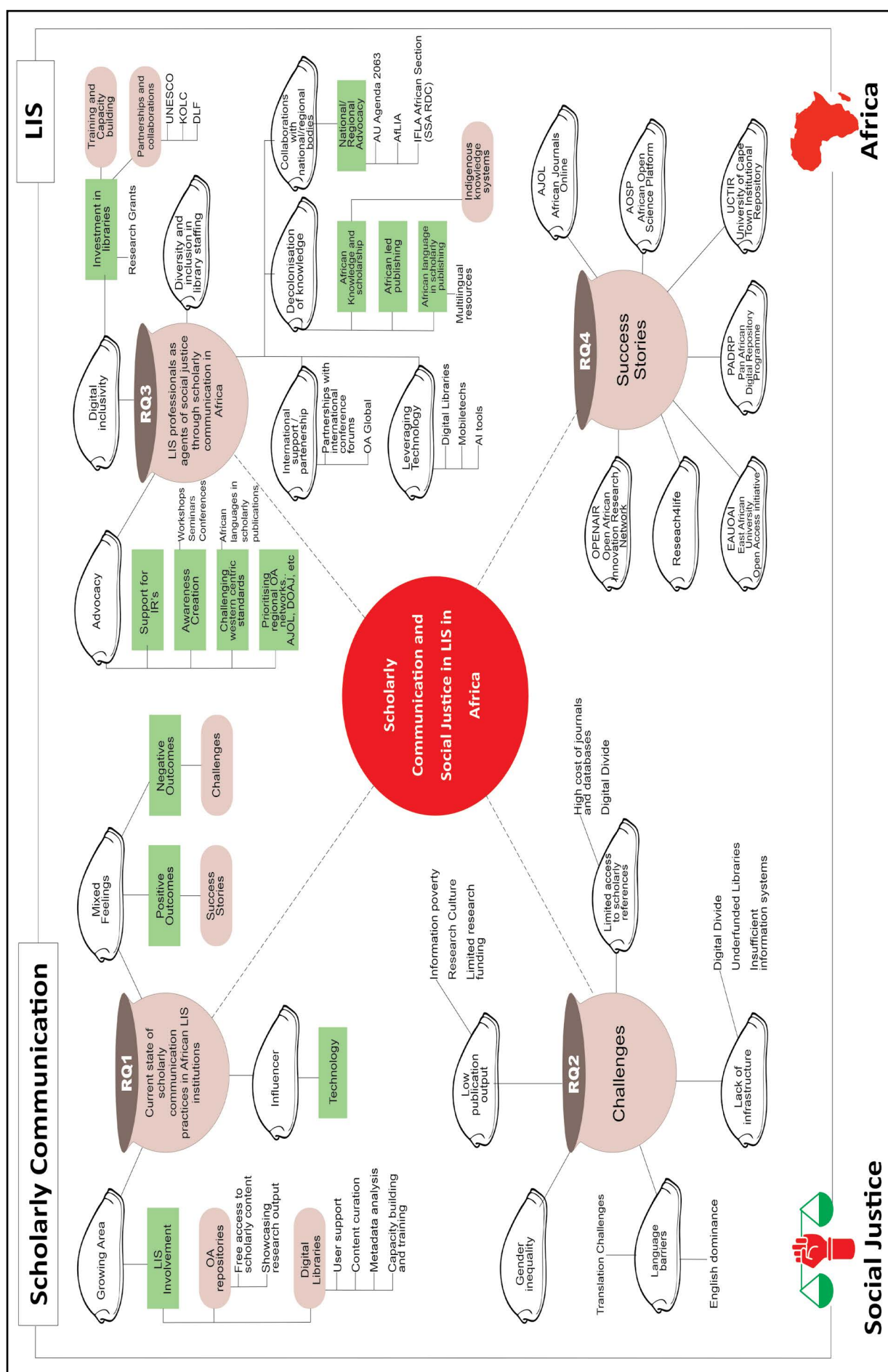
Finally, at the charting and collation of data stage, a full-text screening was conducted to ensure that only studies fully associated with the research objectives were included in the final analysis. The 516 selected papers were thoroughly reviewed for relevance. After this stage, 236 papers met all inclusion criteria and provided substantial discussions on scholarly communication and social justice, as shown in Figure 2.

Stage 5: Summarizing and reporting the results

At this stage, each of the 236 included articles was reread to extract key factors relative to the study objectives. Identified elements included the state of scholarly communication, LIS professionals' roles, challenges faced, and success stories. However, prior to the actual analysis, the researcher mapped the 236 selected papers to identify the top ten African countries contributing the most research. This step clarified the geographical distribution of scholarly contributions. The leading countries were South Africa (n=31), Egypt (n=22), Nigeria (n=21), Kenya (n=17), Ghana (n=15), Ethiopia (n=14), Uganda (n=13), Senegal (n=12), Rwanda (n=11), and Botswana (n=9), see Appendix 1. It is important to note, however, that some of the studies were collaborative efforts involving researchers from multiple countries. In such cases, credit was attributed to the country of the lead author.

Stage 5.1 Reporting the results

Figure 3 presents a comprehensive summary of the results derived from the 236 research papers examined in relation to the study objectives.



RQ1. Current state of scholarly communication practices in Africa

The study's first objective, illustrated in Figure 3, examines the current state of scholarly communication in Africa. A review of the literature identified three key themes highlighting the vital role of Library and Information Science (LIS) professionals in shaping this landscape. LIS professionals significantly contribute to knowledge dissemination, research access, and scholarly visibility (Allen & Taylor, 2017; Ocran & Afful-Arthur, 2022). Their efforts bridge gaps between researchers, institutions, and academic communities (Winberry & Bishop, 2021; Tshabalala & Dube, 2024). Establishing digital libraries has been a crucial contribution, enhancing access, metadata analysis, and digital literacy (Zirra et al., 2019). The literature further emphasizes the establishment of open-access repositories by LIS professionals as a crucial step in enhancing scholarly communication in Africa. These repositories increase access to research outputs and amplify African scholars' intellectual contributions (Nwokedi & Nwokedi, 2018; Van Wyk & Mostert, 2011). However, LIS professionals express concerns regarding the sustainability of scholarly communication initiatives (Ocholla, 2011; Oguiche, 2018). Key challenges include inadequate funding, concerns over the quality control of open-access publications, and the need for stronger support structures (Yusuf et al., 2019; Malapela, 2017). These issues are further examined in the next research objective.

RQ2. Challenges faced by LIS professionals in promoting scholarly communication and social justice in Africa

As illustrated in Figure 3, LIS professionals in Africa play a vital role in promoting scholarly communication and social justice. However, systemic challenges hinder their impact, including information poverty, inadequate research culture, gender inequality, language barriers, poor infrastructure, and restricted access to scholarly information due to high journal and database costs (Ocholla, 2011; 2024). According to the literature, one of the biggest challenges LIS professionals in Africa face in promoting scholarly communication is low publication output, largely due to information poverty, an underdeveloped research culture, and insufficient research funding (Bouaamri et al., 2022). Many lack access to essential academic resources, including journals, databases, and repositories, limiting their ability to conduct research and publish findings. Additionally, the African research culture does not emphasize frequent academic writing and publishing as strongly as in regions like Europe and North America (Mia, 2020). Many LIS professionals prioritize teaching and administrative duties over research, as institutions often provide little incentive or reward for scholarly engagement (Malapela, 2017; Gray, 2010). Furthermore, limited research funding in African institutions restricts data collection, conference participation, and extensive research projects, discouraging publication efforts (Uwizeye et al., 2022).

Gender inequality also presents a significant barrier to LIS professionals' contributions to scholarly communication (Kosmicki, 2019; Bladek, 2019). Women in LIS frequently face discrimination, hindering their career advancement and research participation. Crilly (2024) highlights that female LIS professionals often struggle with unequal access to research grants, underrepresentation in leadership, and societal pressures balancing professional and domestic responsibilities, reducing their engagement in research and academic publishing (Akhtar & Soroya, 2021). Besides that, language remains a significant barrier for LIS professionals in Africa, largely due to the dominance of English in academic publishing (Onyancha, 2007; Aldirdiri, 2024). Many African scholars conduct research in local languages, yet high-impact journals and major academic databases primarily publish in English. As Heleta and Mzileni (2024) argue, this creates disadvantages for non-English-speaking researchers, who must either invest in costly translation services or risk their work being unpublished. Consequently, valuable indigenous knowledge is often excluded from global academic discourse (Köbli et al., 2024). Even African scholars who publish in English may struggle with language proficiency, affecting the clarity and acceptance of their work (Dadze-Arthur & Mangai, 2024). Additionally, inadequate infrastructure further hinders LIS professionals' ability to promote scholarly communication. Many African institutions face poor digital infrastructure, underfunded libraries, and outdated information systems (Awazi & Balgah, 2024). The digital divide exacerbates these challenges, as unreliable internet connectivity and limited digital repositories restrict access to scholarly resources (Mensah, 2024). Finally, limited access to scholarly information due to the high cost of journals and academic databases remains a major challenge, as highlighted in many reviewed papers. North et al. (2020) note that African universities and research institutions struggle to afford expensive journal subscriptions, restricting access to essential content. Strydom et al. (2022) argue that this financial barrier creates an uneven playing field, limiting African scholars' contributions to academic discourse.

RQ3. LIS professionals as agents of social justice through scholarly communication in Africa

The third research objective examined the role of LIS professionals in Africa in advancing social justice through scholarly communication. It explored their efforts in promoting equitable access to knowledge, addressing systemic barriers in academic publishing, and fostering inclusivity. The literature suggests that LIS professionals serve as key agents of social justice by engaging in advocacy, digital inclusivity, international collaborations, and the decolonization of knowledge. Their contributions extend beyond traditional library services to leveraging technology for bridging information gaps, enhancing accessibility, and ensuring marginalized voices are represented in scholarly discourse, ultimately fostering a more just and inclusive academic environment.

LIS professionals play a crucial role in advancing social justice through advocacy, particularly in promoting Institutional Repositories (IRs). Bouaamri et al. (2022) highlight that IRs serve as open-access platforms that preserve and disseminate African research, addressing barriers caused by expensive academic journals (Laugu, 2024). Ajani et al. (2024) emphasize that LIS professionals champion IRs to democratize knowledge access. Crilly (2024) argues that LIS professionals can mitigate these biases by advocating for inclusive publication criteria that recognize indigenous knowledge systems. Malapela (2017) further underscores the importance of regional open-access networks to enhance African scholarship visibility. Initiatives like the African Open Science Platform and the African Digital Library Support Network (Kimengsi et al., 2016) demonstrate these efforts, ensuring African researchers retain control over their intellectual output.

Further, LIS professionals promote social justice through digital inclusivity (Crilly, 2024). However, African institutions face digital divides due to inadequate infrastructure (Ajani et al., 2024). Gor (2017) highlights that LIS professionals advocate for increased investment in libraries, focusing on both resources and capacity-building. In Kenya, the University of Nairobi Library has implemented digital literacy training programs, teaching students to navigate electronic databases, conduct online research, and critically evaluate digital sources (Otike & Barat, 2021), enhancing equitable access to information. Additionally, as presented in Figure 3, LIS professionals strengthen their role in promoting social justice through international partnerships and support. Siyao et al. (2017) and Racelis (2018) highlight how engagement with global organizations and conferences bridges African researchers and the global academic community. Regionally, partnerships with organizations like AfLIA and IFLA SSA RDC amplify Africa's voice in scholarly discussions (Ossai-Ugbah, 2013; Eberhart, 2015). Additionally, the African Union's Agenda 2063 promotes knowledge production and dissemination as key to sustainable development.

Decolonizing knowledge is also central to LIS professionals' efforts. Historically, African scholarship has been marginalized (Birdi, 2021), often required to conform to Western standards (Mama, 2007). LIS professionals challenge this by advocating for African-led publishing initiatives (Ibrahim et al., 2024). African Journals Online (AJOL) exemplifies this, providing African scholars with spaces where their work is valued (Mwambari et al., 2022). Furthermore, LIS professionals support African-language scholarly publishing, advocating for multilingual resources (Lor, 2012). The University of Cape Town, for instance, incorporates indigenous languages into academic publishing to enhance linguistic inclusivity (Scott, 2023; Botes, 2021). Lastly, technology also plays a crucial role in advancing social justice. Digital libraries increase access to research materials (Omekwu et al., 2023), while initiatives like the Digital Library of Africa and PALIS have provided open access for two decades (Clarke, 2004).

Mobile technology has further expanded access, especially in areas with limited infrastructure (Dony et al., 2024).

RQ4. Successful initiatives in advancing scholarly communication and social justice in Africa

As presented in Figure 3, the scoping review indicates that, over the past two decades, a number of initiatives have been implemented across Africa to promote scholarly communication and social justice within the Library and Information Science (LIS) field. These efforts have sought to address challenges such as restricted access to research materials, Western-dominated publishing standards, and the digital divide that has historically marginalized African researchers. Despite these challenges, significant progress has been made through open-access platforms, digital repositories, and knowledge-sharing initiatives. Some of the most impactful programs identified in the literature include African Journals Online (AJOL), the African Open Science Platform (AOSP), the University of Cape Town Institutional Repository (UCTIR), Research4Life, the East African University Open Access Initiative (EAUOAI), and the Pan-African Digital Repository Programme (PADRP). According to the literature, one of the most influential initiatives in scholarly communication and social justice in Africa is African Journals Online (AJOL) (Siyao et al., 2017). Established in 1998, AJOL provides a digital platform for African-published scholarly journals, ensuring wider dissemination of research output (AJOL, n.d). Before AJOL, many African scholars struggled to publish and access research due to a lack of locally available journals and the dominance of Western publishers (Murray & Clobridge, 2014). By hosting thousands of articles across multiple disciplines, AJOL has successfully bridged this gap, offering an open-access platform that allows scholars from underprivileged institutions to engage in academic discourse without financial barriers (Adegbihero-Iwari et al., 2023).

Another major initiative is the African Open Science Platform (AOSP), which promotes open science principles, data-sharing practices, and national research infrastructures (Motshegwa, 2023). It fosters transparency and collaboration, ensuring African research data is accessible to scholars, policymakers, and the public. AOSP has played a key role in advocating for policies that encourage open-access mandates in African institutions, thus reducing knowledge inequalities (Jain, 2021). The University of Cape Town Institutional Repository (UCTIR) is another success story in institutional open access. It provides a freely accessible platform for research output from the University of Cape Town (OpenUCT, n.d). The UCTIR reduces reliance on expensive academic journals, ensuring research findings reach a global audience. This contributes to the decolonization of knowledge by allowing African scholars to control how their research is disseminated (Maake-Malatji & Cox, 2024).

Furthermore, the Research4Life initiative has also transformed access to scholarly information in Africa. It provides free or low-cost access to peer-reviewed journals and databases for researchers in developing countries (Research4Life, n.d). By partnering with major academic publishers, Research4Life ensures that African scholars can access high-quality scientific literature, which would otherwise be unaffordable (Hill, 2021). The program has significantly enriched research standards in African universities, enabling scholars to participate actively in global academic discussions (Zulu & Twum-Darko, 2023). Finally, at the regional level, the East African University Open Access Initiative (EAUOAI) has been instrumental in promoting open-access policies in higher education institutions. This initiative unites universities across Kenya, Uganda, Tanzania, Rwanda, and Ethiopia to develop institutional open-access policies (Muneja & Ndenje-Sichalwe, 2016). According to Arinze (2024), EAUOAI fosters cross-border collaboration, enabling researchers to share knowledge more effectively.

Strengthening scholarly communication and social justice in Africa: Key recommendations from the literature

The literature on scholarly communication and social justice in Library and Information Science (LIS) in Africa presents several recommendations aimed at addressing challenges and fostering a more inclusive and equitable academic environment. These recommendations focus on policy development, capacity building, infrastructure investment, regional collaboration, and the integration of indigenous knowledge systems to create a scholarly communication ecosystem that reflects African realities and priorities.

A major recommendation is the integration of social justice principles into scholarly communication policies at institutional, national, and regional levels (Adebayo, 2024). Policies should ensure equitable access to publishing opportunities regardless of gender, language, economic status, or institutional affiliation (Ramaila, 2024). Kasprowicz et al. (2023) emphasize that universities and research institutions should mandate open-access publishing while providing financial support for underrepresented scholars. Additionally, Rasekoala (2022) and Esseh (2011) call for policy frameworks that promote the inclusion of African knowledge systems in academic discourse. Advocacy efforts should prioritize African-led journals (Ochieng & Gyasi, 2021) and research that aligns with Africa's development agenda to ensure scholarly communication contributes to societal progress (Tikly & Barrett, 2011).

Another recommendation is for LIS education and training programs to be updated to reflect the evolving scholarly communication landscape. Gibson et al. (2017) suggest incorporating courses on open-access publishing, copyright laws, digital literacy, and social justice in knowledge dissemination.

Mpuangnan and Ntombela (2024) emphasize equipping future LIS professionals with skills to navigate scholarly communication challenges, through hands-on training in institutional repository management, digital archiving, and open science practices. Strengthening LIS curricula ensures graduates become strong advocates for open-access initiatives within their institutions. The need for ongoing training and professional development programs were also identified as a key recommendation for strengthening scholarly communication in Africa. For instance, Okello-Obura and Kigongo-Bukenya (2011) recommend workshops, conferences, and online training to enhance LIS professionals' expertise in open-access publishing. Ocholla and Bothma (2007) highlight the importance of professional development in research data management and digital preservation. Hepworth and Duvigneau (2012) further suggest tailored training programs for LIS professionals in under-resourced institutions to bridge knowledge gaps.

Furthermore, the need for a collaborative approach involving governments, universities, funding agencies, librarians, and researchers was also identified as crucial in addressing barriers such as high journal costs, digital literacy gaps, and inadequate research funding (Jain, 2021). Policymakers and funding bodies should engage in discussions on scholarly communication to create a sustainable open-access environment (Kakai et al., 2018). Additionally, Nwokedi & Nwokedi (2018) advocate for private sector and philanthropic involvement in funding digital libraries and research initiatives to support LIS professionals. Local communities should actively participate in research processes to ensure their knowledge and lived experiences contribute to scholarly outputs (Jaeger et al., 2011). Trotter et al. (2014) propose participatory research models, citizen science initiatives, and oral history projects to bridge the gap between academic and grassroots knowledge-sharing. Mackenzie et al. (2015) argue that stronger ties between academia and local communities enhance social justice and inclusivity.

Finally, promoting open access and integrating indigenous knowledge systems came up as very essential for fostering equitable scholarly communication in Africa (Adakawa, 2022). Historically, African scholarship has been marginalized due to the dominance of Western publishing standards, limiting the visibility of indigenous knowledge and local research methodologies (Raju et al., 2015). To address this, academic publishing must embrace African languages, oral traditions, and region-specific research approaches. Increasing support for African-led publishing initiatives will empower scholars to disseminate knowledge on their own terms, reducing reliance on Western-dominated platforms (Ibrahim et al., 2024). Additionally, multilingual research dissemination will enhance accessibility, ensuring that scholarly outputs reach diverse audiences, including local communities, policymakers, and global researchers (Chowdhury et al., 2023).

Establishing open-access policies that prioritize indigenous knowledge and culturally relevant research will help decolonize academia while fostering a more inclusive knowledge-sharing environment (Crilly, 2024).

Conclusion

The scoping review of scholarly communication and social justice in Library and Information Science (LIS) in Africa (2004–2024) reveals significant progress alongside persistent challenges. Over the past two decades, LIS professionals, academic institutions, and research communities have increasingly recognized the role of scholarly communication in promoting equitable access to knowledge. Open-access initiatives, digital repositories, and regional collaborations have improved research visibility and inclusivity. However, systemic barriers such as inadequate funding, digital divides, and language constraints continue to hinder progress. A key finding from the review is the growing focus on social justice, particularly in addressing the needs of underrepresented communities. African libraries, archives, and information centers have become essential agents of social transformation, bridging literacy gaps, preserving indigenous knowledge, and challenging systemic biases in information organization. Open-access publishing and advocacy for inclusive information policies have reshaped Africa's scholarly communication landscape. Despite these advancements, challenges such as limited government support, censorship, and linguistic barriers persist, restricting widespread knowledge accessibility. LIS professionals play a critical role in advancing social justice by supporting Open Access initiatives, fostering diverse research collaborations, and advocating for inclusive policies. Moving forward, investments in open-access infrastructure, digital literacy, and African-led publishing efforts are crucial to ensuring broader knowledge equity.

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Appendix 1: Geographical distribution of scholarly contributions N=236

Countries	Number of Publications
South Africa	31
Egypt	22
Nigeria	21
Kenya	17
Ghana	15
Ethiopia	14
Uganda	13
Senegal	12
Rwanda	11
Botswana	9
Zimbabwe	7
Tanzania	6
Botswana	6
Morocco	4
Mali	3
Sudan	3
Algeria	3
South Sudan	3
Guinea	2
Tunisia	2
Republic of the Congo	2
Somalia	2
Libya	2
Niger	2
Central African Republic	2
Ivory Coast (Côte d'Ivoire)	2
Angola	2
Mozambique	2
Democratic Republic of the Congo	2
Chad	2
Cameroon	2
Eritrea	2
Guinea-Bissau	1
Gabon	1
Liberia	1

Countries	Number of Publications
Sierra Leone	1
Namibia	1
Mauritius	1
Mauritania	1
Equatorial Guinea	1
Cabo Verde	1
Seychelles	1
Burkina Faso	1
Gambia	-
Benin	-
Comoros	-
São Tomé and Príncipe	-
Malawi	-
Lesotho	-
Burundi	-
Djibouti	-
Togo	-
Madagascar	-
Eswatini (Swaziland)	-

Source: Scoping review case set for analysis

Re-imagining a Social Justice Curricula and Scholarly Publishing in a Library and Information Science School in South Africa

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Abstract

The Library and Information Science (LIS) profession is historically rooted in service-oriented ethics and philosophy and LIS researchers around the globe are exploring frameworks for integrating social justice in the LIS curriculum and research. Notwithstanding there is a dearth of research on this topic in South Africa. Deep-seated inequalities and systemic barriers such as high levels of illiteracy, high rates of crime, racial and gender inequalities, unemployment, poverty, race and inclusivity continue to plague the country amidst policies aimed at redressing the country's historic inequalities and injustices resulting from the legacy of apartheid. Also, the effects of the fourth industrial revolution, widespread environmental crises and global protests and actions have further heightened challenges to social justice in the country. A socially just LIS curriculum should prepare future professionals to advocate for equitable access, challenge systemic biases and create a positive change in the provision of information services. Adopting a qualitative approach, a narrative review and content analysis of documents, this essay explores the current state of social justice within the curricula and scholarly publications in a LIS school in South Africa amidst the emerging global and national drive for curriculum transformation and to re-imagine a curricula that integrates social justice in pedagogy, research and extracurricular activities in LIS education and training in South Africa. The article adds to the body of literature advocating for social justice in LIS education from an African perspective. The article also informs the social justice perspective of curriculum transformation in institutions of higher learning in South Africa.

Keywords: library and information science, curricula, South Africa, social justice, scholarly publishing

Introduction

There is no unanimous definition of the term social justice. Barker (2013) defines social justice as an ideal condition in which all members of a society have the same basic rights, protections, opportunities, obligations, and social benefits. Social justice has also been attributed to distributive justice, political, economic, educational health and cultural freedom. This essay adopts a definition that describes social justice as advocating and striving toward equality and equity for all humans in society for access to basic needs, voice, education, liveable wages, meaningful work, access to opportunities, information, services, resources and meaningful participation in decision making regardless of race/ethnicity, sexual identity/orientation (Atteberry-Ash et al. 2024).

Although conversations on prioritizing social justice for historically disadvantaged social groups in higher education, has loomed within the education policy discourse in many countries around the globe, these discussions to a large extent in South Africa has been wavering, often with different conflicting perspectives. While some scholars are skeptical postmodernist denialist of the tenability and desirability of universal principles, others have an uncritical, problem-solving orientation and are rather seeking quick-fix solutions and value free research in higher education. Notwithstanding, a significant group of scholars are committed to social justice research in education, as evidenced in the growing number of studies in the past fifteen years that have focussed on the ways in which inequalities are produced and reproduced by post-colonial education policies (Badat, 2020; Bosch, 2017; Bozalek & Boughey, 2012; Gewirtz, 1998; Heleta, 2016; Jansen, 2003; Mbembe, 2015; Mwaniki, 2012; Ngcobozi, 2015, Oxlund, 2016). Prioritizing social justice pedagogy in higher education institutions in post-apartheid South Africa will reshape and fundamentally prepare graduates to work in diverse settings, interact with society and handle social justice issues.

In response to policy frameworks and scholarly writings for a transformed curriculum in addressing social justice in the higher education landscape, this essay re-imagines a strategy for social justice in a Library and Information Science (LIS) curricula and scholarly publishing in a university in South Africa and advocates that Library and Information Science educators and researchers should champion the agenda of social justice curriculum reform and scholarly publishing.

Social justice concerns have long historical roots in the Library and Information Science (LIS) profession. According to the American Library Association (ALA, 2006, 2019), the principles of social justice are embedded within librarianship through its core principles of democracy, intellectual freedom, equity, social responsibility, and a commitment to positive change for the common good. ALA lists equity, diversity, and inclusion as fundamental values of the association and uses a social justice framework to position the organization

as a trusted, leading advocate for equitable access to library, supporting human rights and intellectual freedom.

Also, the International Federation of Library Associations and Institutions (IFLA, 2019) noted that libraries are, arguably, social justice institutions, committed to giving everyone the opportunity to learn, grow and develop through providing access to information and services to the community, particularly in the form of facilitating job and skills development.

To this end there has been a consistent and growing global trend in scholarly publications on social justice education in LIS as researchers are advocating the need to offer courses that are explicitly linked to social justice topics that will prepare future librarians for their intellectual and practical roles. Furthermore, significant strides have been made by LIS professionals around the world to integrate social justice in the curricula (Bonnici et al., 2012; Cooke & Sweeney, 2017; Jaeger, Shilton & Koepfler, 2016; Kumasi & Manlov, 2016; Mehra, Albright & Rioux, 2006; Mehra, Rioux, & Albright, 2009; Mehra, 2014, 2021; Mathuews, 2016; Mathiesen, 2015; Morales, Knowles & Bourg, 2014; Pyati, 2010, Rioux, Roberts & Noble, 2016; Singh & Rioux, 2021). A general exploration of online course descriptions at the 63 English-medium North American Library Association (ALA-accredited) graduate LIS programs by Singh and Rioux (2021) revealed that 53 out of the 60 schools have some social justice in their curriculums. Pawley (2006) asserts that the traditional LIS curriculum taught in master's programs in North America transmits a knowledge inheritance that perpetuates white privilege and presents barriers to racial diversification in LIS. Therefore, teaching social justice in the LIS curriculum will result in holistic development and growth of future information professionals, transform their thinking and prepare them to be successful information professionals (Cooke, Sweeney & Noble, 2016).

South Africa higher education landscape and the social justice perspective in the transformation agenda

South Africa's unique history of social exclusion, deep structural, inequities segregated development and economic deprivation resulting from pre 1994 apartheid years looms thirty years after, thus providing a special context for understanding the issues of social justice. Apartheid created a racially segregated unequal and fragmented higher education whereby White students received quality support and education, while Black, Colored and Indian students were disadvantaged (Bitzer, 2009). The racial separation and the reinforcement of white supremacy meant that higher education institutions were intellectual, academic, linguistic and socioeconomic instruments with graduates either contributing to the needs of the apartheid state or being relegated to the "Bantustans".

The post-1994 experience for most South Africans is still poverty, unemployment, exclusion and inequality in relation to race, gender and location (Govender, 2016). South Africa remains one of the world's most unequal country and has been referred to as a country of two nations. One of these nations is White, relatively prosperous, regardless of gender or geographic disperse, has access to developed economic, physical, educational, communication and other infrastructure, and the second and larger nation is Black and poor, with the worst affected being [Black] women in the rural areas, and the disabled (Mbeki, 1998). The National Development Plan (NDP) 2030 (National Development Plan, 2013) affirms that a divided country with poor-quality education for black people as some of the major challenges to its democracy. The South African Constitution, which is known as the most democratic in the world, seeks to heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights (Republic of South Africa RSA, 1996). The Constitution places a specific responsibility on higher education institutions to revere, defend and uphold the rights of all South Africans, thus ensuring social justice. Among the numerous policies that address the past imbalances in education are the Higher Education Act of 1997 (Higher Education Act, 1997), the National Plan for Higher Education (Department of Higher Education and Training (DHET), 2001) and the NDP (2013).

A transformed curriculum has become fundamental in discourse on higher education institutions across the globe as national, political and students' protests have triggered renewed interest among scholars and practitioners to advocate for a social justice pedagogy. The #RhodesMustFall and #FeesMustFall national students protest in 2015 and 2016 in South Africa respectively raised renewed awareness of the structural injustices embedded in the education systems, resulting in pressure from South African higher education to transform and decolonize the Eurocentric orientation (Council on Higher Education, 2016). In the same vein, the #BlackLivesMatter movement in the United States has been a driving force behind multicultural curriculum reform and the recognition that the mainstream curriculum taught in the educational institutions intends to reflect Eurocentric biases that work to reproduce existing social hierarchies (Gay, 2000). One of the primary ways in which educators in the United States have worked to achieve the goals of social justice is through multicultural curriculum reform (Banks & Banks, 2010).

Institutions of higher learning in South Africa are caught up in the pressure for transformation and have made strides in transformation on a range of issues such as funding for students, academic staff diversity; the marginalized experiences of black female academic staff, the plight of workers and outsourcing; the forgotten experiences of disabled students; the experiences of firstgeneration black workingclass students who are the first in their family to come to university; the role of language as a symbolic representation of hegemonic cultures; epistemic racism; cultural alienation; the deeply contested

notions of higher education curricula as an “*institution*”, that embodies Eurocentricity and alienating values and beliefs (Bosch, 2017; Bozalek & Boughey, 2012; Heleta, 2016; Jansen, 2003; Mbembe, 2015; Mwaniki, 2012; Ngcobozi, 2015; Oxlund 2016). The fourth industrial revolution, the prevalence of artificial intelligence and related technologies, and the sustainable development goals have further highlighted issues of social justice such as information access, information skills, digital literacy, ethics and inclusion.

Language is currently considered a critical component in the conceptualization and actualization of social justice of the curriculum in the country understandably so due to the historical context within which South Africa’s higher education evolved and the fact that it still plays the role of privileging access to higher education for some (Dube, 2012; Mwaniki, 2012; Ngoepe & Saurombe, 2021). It stands to reason that language transformation will facilitate epistemological access through the mastering of disciplinary literacies. Notwithstanding, as conversations are ongoing on how to build tools and frameworks to incorporate transformation in institutions of higher learning, this essay advocates for a social justice perspective to the curriculum transformation agenda that goes beyond language marginalisation into examining ways of adopting social justice in the curriculum. The Department of Higher Education (DHET, 2015) reiterates the importance of designing modules in a way that addresses the critical challenges facing education in South Africa that emanate from the legacy of apartheid. Dube (2012) contextualized the degree of Africanization of the LIS curriculum in the Department of Information Science at the University of South Africa and concluded that little is known about the inclusion of indigenous content, both explicitly and incidentally, into the LIS pedagogy. She advocates the need to plan, prioritise and popularise Africanization within the institution. Ngoepe and Saurombe (2021), utilizing the concept of Africanisation to analyze the integration of curriculum transformation of the ten archival and records management modules offered at this LIS Department that was implemented in 2017, lament the missed opportunity to transform the archival curriculum during programme development. They posit that teaching and learning methods, as well as African theories and practices were missing in the curriculum.

Against this backdrop, it is evident that there is urgent need to shift from the theoretical discourse on social justice in education to exploring ways of infusing social justice in the curricula and promoting the publication and documenting of knowledge and philosophies of social justice in the form of articles textbooks will provide educators in universities with alternative paradigms. This essay explores the curricula and scholarly publications of the largest LIS school in South Africa which is situated at an Open Distance eLearning University and reimagines a social justice curriculum and social justice focused scholarly publications that may provide a basis for LIS educators in South Africa as they explore ways of embracing social justice in the

curricula and in scholarly publishing. LIS schools are departments that offer Library and Information Science education at the undergraduate and postgraduate levels.

There are 26 public universities in the country and 9 LIS schools. The researcher purposively chooses one of the 26 universities to investigate its LIS Department because the concept of social justice is reflected in the institutional culture, curricula and research of this university. The university strives to promote humanness, anti-racism and self-worth in the context of cultural and intellectual differences for the attainment of equality, and will not tolerate unfair discrimination based on race, gender, sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, disability, religion, conscience, belief, culture, language, birth, HIV status or any other arbitrary grounds. The mission statement of this university is to be an African university shaping futures in service of humanity. It is also the largest Open Distance eLearning higher educational institution in the country. With a core value being the commitment to social justice and equity.

Transformation forms a critical part of the development of the curriculum at this university. Furthermore, the university has put in place necessary policy requirements to be considered at each step of the development of the curricula. To this end, it follows a framework for the implementation of a team approach to develop programmes that are appropriate for society and meet the standards of programmes prescribed by the Higher Education Act of 1997 (Higher Education Act, 1997). According to the framework, academics with a background in the discipline, education consultants and stakeholders should work together to ensure that programmes are developed and contextualised to address societal needs and develop lifelong learners who are competent and capable to realize the aspirations of society.

The LIS Department at this university is the largest in South Africa. It has been involved in the education and training of library and information professionals for over 60 years. It offers a wider variety of qualifications in different aspects and fields of Library and Information Science, ranging from short learning programmes, certificated certificates, diplomas, undergraduate, postgraduate, to graduate level. This LIS Department has highly qualified lecturers who are specialists in various aspects and fields. The Department seeks to equip its students with the best combination of knowledge and skills to work and survive in the information society.

As already noted, there has been a global trend in scholarly publication by LIS scholars to build tools and frameworks to incorporate and enhance social justice thinking and praxis in LIS education (Cooke & Sweeney, 2017; Mathiesen, 2015; Mehra, Albright & Rioux, 2006; Mehra, Rioux & Albright, 2009; Morales, Knowles & Bourg, 2014; Rioux, 2010).

Furthermore, there have been several seminars, conferences and symposiums organized globally by LIS scholars to promote the concept of social justice. For example, the LIS concept of implementing Social Justice in the Classroom originated in 2015 from a grassroots project by the Association for Library and Information Science Education (ALISE) 2015 preconference workshop on social justice teaching in LIS known as Teaching for Justice. At this conference, editors and contributors offered a myriad of experiences and approaches to embedding social justice in the LIS curriculum (Jaeger, Shilton & Koepfler 2016). The Social Justice in Library and Information Science 4th International Conference on Qualitative and Quantitative Methods in Libraries was held in 2012, in Limerick (Mehra, 2014). Also, several LIS journals have published articles on social justice, which are *Journal of Education for Library and Information Science*, *Archival Science*, *Library Trends*, *Advances in Librarianship*, *Education for Library and Information Science*, *The Library Quarterly*, *Education for Information*, and *The International Journal of Information Diversity & Inclusion*.

Research problem

Curriculum transformation features prominently on the agenda of South African higher education institutions, and policy frameworks and higher educational institutions are developing frameworks to enhance social justice in their curriculum. For example, Groenewald and Mpisi (2014) provide a framework for the re-curriculated Bachelor of Education (BEd) programme at the Sol Plaatje University Kimberley, South Africa that equip students with knowledge and skills to realise the aim of social justice. Winberg and Winberg (2017) explore a social justice approach to decolonize an engineering curriculum in a university in South Africa.

Notwithstanding, LIS Schools in South Africa have not prioritized a social justice curriculum and there is little evidence of LIS seminars conferences and symposiums organized in South Africa with a social justice focus. Although LIS scholars in South Africa (Dube 2012; Ngoepe & Saurombe, 2021) lament the lack of Africanization at a particular LIS School, they did not provide a framework for the Africanization of the curriculum. Also, there are few scholarly publications by LIS scholars in South Africa on social justice and LIS education although these schools may profess social justice principles and commitment to fairness, equity, and diversity. This is confirmed by 2023 study on LIS research trends in South Africa which revealed that scholarly publications on LIS education have focused on core LIS topics, with LIS education and pedagogy being the least researched (Ukwoma & Ngulube, 2023). Studies on LIS curriculum have focused on the need to realign the curriculum to the fourth industrial revolution (Mosweu & Netshakuma, 2023). Ocholla (2024) noted that LIS research publication trends show insignificant incremental growth as research is slowly shifting to non-traditional LIS technology driven-research subjects. Related studies by LIS professionals on social justice have not focused on the curriculum. For example, social justice and inclusivity (Raju et al., 2020), social justice and open access (Raju & Badrudeen,

2022) and social justice and South African academic libraries (Bangani & Dube, 2023).

In hindsight, Raju's (2015) study on an African Agenda in LIS Education in the digital era advocating for a paradigm shift in LIS Schools in Africa that will broaden the LIS interdisciplinary domain and stake an intellectual claim that will contribute to the growth and development of LIS services in Africa within the context of an African development agenda and the digital divide is a wakeup call in 2024.

Against this backdrop, this essay draws from the literature, theories and frameworks on social justice to re-imagine a curriculum for social justice and scholarly publishing at a LIS school in South Africa. A social justice focused LIS curriculum and scholarly publishing LIS will help students develop a critical understanding of social issues in an unjust society, enhance the principles of equity, participation, and help to address the social inequalities present in an unjust society.

Objective

This essay explores the curriculum and scholarly publishing of a LIS school in one of largest public universities in South Africa and re-imagines a social justice curriculum and scholarly publication at LIS schools.

Literature review

Social justice and social justice pedagogy

The concept of social justice is highly contested and varies according to perspectives and social theories. Most conceptions of social justice refer to a society that reflects liberty, equality, human rights and dignity, thus reflecting the values and symbols of the French Revolution (1789–1799) and the Declaration of Human Rights. Musara, Grant and Vorster (2021) posit that a social justice perspective should include individual and family relationships, as well as political, economic and cultural aspects. Social justice in Higher Education Institutions is about ensuring that graduates are taught not only to pass but to make equitable changes in society that can help to disrupt cycles of oppression (Clayton & Williams, 2004). Bonnici et al. (2012) identified five major social justice typologies as justice as fairness, utilitarianism, justice as desert, egalitarianism/equity, and distributive justice.

Social justice pedagogy can be explored through different frameworks and perspectives. For example, the Critical Race Theory (CRT) and critical pedagogy have distinct social justice agenda. Through co-investigation, dialogue and discussions, students develop their socio-political consciousness. By way of self-criticism and self-consciousness, students critique unequal power relations in society (Giroux, 2010).

Fraser's (2009) threedimensional interconnected but distinct genres of social justice are economic, the cultural and political. Social justice is achieved through the economic mode by redistribution of the resources of society, through the cultural mode by recognition parity of esteem and through the political mode by equity of representation (Fraser, 2009). In terms of a curriculum, redistribution is achieved through sharing knowledge and expertise as well as more tacit qualities such as qualities of professional practice and behavior.

Moje (2007) identifies affirmative and transformative approaches to enabling social justice. Affirmative approaches focus on social inclusion policies to rectify social, economic, and political exclusion of ethnic groups, distinct classes, or minorities. A transformative approach to academic literacies aims to foster critical thinking within scholarly communities and reduce inequalities in society. Moje (2007) also differentiates between a social justice pedagogy where every youth has an equitable opportunity to learn and a social justice pedagogy with transformative opportunities for all youth to question, challenge, and reconstruct knowledge.

Banks and Banks (2010) conceptualizes multicultural education as education that seeks to create opportunities for all students across different racial, ethnic, and social class groups as a field of social justice. This is one of the primary ways in which educators in the United States have worked to achieve the goals of social justice. Multicultural social justice education focuses more on oppression and structural inequality and seeks to reconstruct society towards greater equity regarding race, class, gender, religion and disability (Grant & Sleeter, 2007). Ladson-Billings (2009:20) describes culturally responsive teaching as a pedagogy that empowers students intellectually, socially, emotionally, and politically because it uses cultural referents to impart knowledge, skills, and attitudes. Central to culturally responsive education is teacher identity and student performance.

From an epistemological perspective, Morrow (2009) argues that social justice is about learning how to become a participant in academic practice. He comments that in the same way in which no one else can run for another person, no one else can learn from another person. To access the learning, he asserts that learners need to face the difficulties and challenges of systematic learning and teachers need to face their responsibilities as teachers by supporting learners to face these challenges. Systematic teaching requires that the educator select and sequences valuable information that will result in knowledge acquisition. The educator should consider who is being taught, the time allocation, the topic, the language of teaching, as well as the teaching styles. Students need to be academically literate by mastering their disciplinary literacies to learn and engage with knowledge in their field.

This essay adopts Moje's (2007) and Morrow's (2009) perspective of social justice in education by advocating for the importance of critical thinking and epistemological access that will facilitate academic literacy and the responsiveness of the educator

Social justice in LIS curriculum

Mehra, Albright and Rioux (2006) are commended for the seminal perspective on the topic of social justice within the context of LIS. They propose an exploratory practical framework to consider social justice research in the information professions that calls for greater action-oriented social justice elements and agendas in information needs and use research.

Mehra, Rioux and Albright (2009) specifically address the ways by which social responsibility can be implemented into syllabi in the study of the core values of the field for librarians and archivists. They contend that by using social responsibility and diversity as core organizing curricular principles, LIS schools and instructors can both teach the traditional canons while at the same time providing critiques and power analyses that are necessary for preparing students and professionals to work in complex, shifting, and increasingly global communities.

Singh and Rioux (2021) Advanced Certificate Curriculum in Social Justice for Information Professionals course was structured as: Race Consciousness and the Provision of Information Services; Mitigating the Effects of Fake News and Misinformation; Promoting Well-being in the Information Society and Information Work Informed by Social Work. They note that the core LIS curriculum course has topics on user advocacy, access to information, diversity and the digital divide (Singh & Rioux, 2021).

Bonnici et al. (2012) analyzed the curricular approaches to diversity of the LIS schools' curricula as it relates to issues of physiological access and reveal that LIS curricula includes both topics of physical impairment and socially classified populations as diversity issues although not explicitly defined at this macro-analytical level.

Cooke, Sweeney and Noble (2016) advocate for cultural competency and an awareness and advocate that the range of social justice issues in LIS education requires an approach that emphasizes culture; context and critical thinking that extends across curricula, professional practice, and research. They noted that in an increasingly changing society LIS professionals face diverse patron demographics and an increasingly complicated society that influences, shapes, and colors their organization's services and resource, yet they do not have the opportunity to learn about the harder, sensitive, and personal topics that may permeate their professional environments, such as race, class, sexuality, and gender. Kumasi and Manlov (2016) report on a study that examined how multicultural curriculum reform concepts and pedagogies

might be implemented in core courses taught in LIS programs accredited by ALA.

Cooke and Sweeney (2017) highlight the need for incorporating explicit theoretical foundations in social justice courses that include what it means and how it contributes to library practice to be integrated in LIS studies, such as the CRT. In the same vein, Leonard and Smale (2013) suggests that students could understand user information behaviors and needs, and design services and systems intended to serve users in all communities using CRT. Leonard and Smale (2013), further posit that the CRT provides useful concepts and frameworks for accomplishing user behavior in ways that acknowledge a diverse range of experiences, engage students with critical approaches and teaching them to be thoughtful and methodical in their consumption of the status quo. Noble et al. (2014) noted that teaching theories of power contextualized by neoliberalism and capitalism in LIS courses provide a framework for thinking about the kinds of interventions LIS professionals can make in service of social justice in broader social, political, and economic contexts.

Cooke, Sweeney and Noble (2016) noted that course on Race, Gender, and Sexuality in Information Professions was redesigned to examine how issues of race, gender, and sexuality are represented in the information professions. Other social justice topics that have been examined in LIS are health, and sexual orientation topics (Mehra & Tidwell, 2014; Kumasi & Manlov, 2016).

Cooke, Sweeney and Noble (2016) advocate the need for social justice as a topic and tool for transforming LIS curricula and culture by exploring the implementation of social justice-themed courses and an extracurricular reading group in one LIS department. Exploring curricular and extracurricular cases in a shared institutional setting contextualizes key challenges and conversations that can inform similar initiatives in other institutions. Transforming LIS culture to prioritize social justice values, epistemologies, and frameworks requires multivalent strategies, community buy-in, and shared responsibility in terms of the labor of leading and sustaining engagement with social justice. They also explored strategies and challenges of employing social justice as both a subject and a tool for discussing diversity, equality, racism, power, and privilege in LIS education. They noted that training culturally competent and socially responsible library and information professionals requires a blended approach that extends across curricula, professional practice, and research.

Gibson, Hughes-Hassell and Threats (2018) presented the following titles and possible social justice courses in LIS: Introduction to the Library Professions; Information and Information Environments; Information in Social and Cultural Contexts; Foundations of the Information, Professions, Information and Society and Human Information Interactions.

As an instructor of three graduate library and information science (LIS)-related courses taught at the University of Alabama (UA), Mehra (2021) discusses critical pedagogies and reflective practices topics of social justice taught in a graduate programme since spring 2019, providing a glimpse of student learning outcomes, assignment requirements, tangible deliverables, student evaluations, and course opportunities and challenges.

Methodology

The study adopted a qualitative research approach, case study research design, narrative review, document analysis and purpose sampling. Narrative reviews are scholarly summaries, clarification and assessment of conceptual harmonizing forms of intellectualism (Greenhalgh & Malterud, 2018). The procedures of narrative reviews resonate with subjectivist and interpretivist research paradigms (Sukhera, 2022). Narrative review was chosen because it allows for in-depth to analysis, review and interpretation on an under-researched area such as social justice and scholarly publishing in the LIS curricula. There are 9 LIS Schools in South Africa among which are: University of the Western Cape, University of Limpopo, University of South Africa, University of Pretoria, University of KwaZulu-Natal University of Zululand University of Fort Hare, University of Cape Town and Durban University of Technology. The study is based on a case study of one LIS Department under investigation which was purposively selected because it is one of the largest LIS schools in South Africa and offers a wider variety of qualifications in different aspect and fields of LIS. Another reason was because the researcher is a member of staff in this Department and has taught some of the courses and therefore had insights exposure and experience as a member of the Department. Key themes that were researched were social justice, social justice curriculum, LIS curriculum and scholarly publishing. Searches were conducted from August to September 2024. A document analysis was conducted on the LIS module forms, course offerings, course titles, course descriptions and scholarly publications from the website of the LIS Department under investigation to better understand the curriculum and provide suggestions on how social justice issues could be introduced or taught.

Findings and discussions

The findings revealed that the staff of the LIS Department has transformed in the last fifteen years from a White dominated LIS Department to an almost Black dominated Department with a diverse group of staff. The Department is committed to upholding equity and social justice by providing services to an increasingly diverse group of students in terms of disability, race, sexual orientation, socioeconomic status, nationality and cultures. Like the rest of the university, it is committed to implementing the institution's Transformation Charter (University of South Africa, 2011) at both the programme and module levels, as a phased-in approach. The Department has also prioritized language transformation and has developed a "Glossary of Terms" in various modules as positive

step in enhancing epistemological discipline access. The Department was part of a 2024 Teaching and Learning Festival organized by the University to support marginalized languages with the theme education for social Justice (University of South Africa, 2024). The Department is also focusing on the use of Open Educational Resources (OER) in teaching. It also adopted a positive step in the right direction in the 2023 academic year by ensuring that elements of social justice are infused across the curricula through scenario-based assessments that incorporate situational and contextual elements that enable students to reflect on their perceptions and experiences on social justice in ways that facilitates connections with libraries, archives and community organizations.

Notwithstanding, infusing social justice in the curriculum is still at a slow pace. There are no specific courses on social justice offered by the Department. The following are some of the modules offered at the Department with elements of social justice:

- User Studies, Advocacy,
- Ethical Use of Information,
- Information Literacies,
- Managing Library and Information Services
- ICTs in Libraries, and Archives,
- Social Aspects of Information,
- Theory of Information Science,
- Management of Library and Information services
- Introducing Archives and Records Management,
- Introducing Information Science,
- ICT Applications in Libraries and Information Services,
- ICT Applications in Archives and Records.

Critical literature theories such as Critical Race Theory (CRT) and Feminist theories, and critical methods, and approaches are not taught at the research methodology courses nor in Theory of Information Science module. CRT has gained momentum in the humanities and social sciences as an innovative theory and methodology that attends to the intersection of race class, gender, power and law. It offers a structural approach to analyzing racism while leveraging the experiential knowledge of Black, Indigenous, and People of Color (Delgado & Stefancic, 1993). Notwithstanding the school of thought argues that CRT targets white people and is intentionally racially inflammatory the reality is that open and uncomfortable discussions on race- dynamics in the education space are a positive step in enhancing an effective social justice curriculum.

Scholarly publications in social justice by academics has been few and far between. Among the social justice related themes where research has been conducted by scholars are: HIV/AIDs, climate change, poverty, community radios, women in agriculture, unsung heroes in sports, Internet access, digital literacy, digital inclusion and Africanization of curriculum. It was commendable to note a 2023 publication in the IFA Journal which an academic published with a graduate student entitled academic libraries as contributors to social justice and ubuntu through community engagement.

The research area and topics in the Department are generally influenced by the research interest of the individual academic staff and/or graduate students' research focus. More often the major drive to publish among LIS academics is to fulfil a key performance area of research, thus conducting research is seen more of an obligation to publish or perish rather than researching towards social justice issues. Although colleagues are encouraged to promote multi-/inter-/trans-disciplinary research, social justice which is one of the key values of the university does not feature as one of the 31 research focus areas of LIS academics at the website of the LIS Department. Areas of research related to social justice listed on the website are information law, ethics and society and social informatics (Department of Information Science, 2024).

The incumbent Vice Chancellor at university's 150 anniversary celebration recommitted the institution to social justice, equity by noting that the university continues to advocate for social justice and equality, both within the institution and in broader society (Pretoria News, 2023).

The postgraduate program at the Department is offered purely by research and students are enrolled in the program based on the suitability and viability of the intended research, adequate supervisory capacity, and research expertise in the discipline or department. The Departmental Journal known as Mousaion: South African Journal of Information Science has not prioritized publications on social justice.

As earlier noted, the Department engages in extra curricula activities in the form of seminars, lectures, community engaged research and diverse multicultural events that could be considered as social justice focused. For example, it organizes annual Information Science and Archival seminars and lectures on diverse topics and experiences from diverse perspectives, with speakers from diverse backgrounds on topical areas in Information Science.

Some social justice focused community engagement carried out by staff members are: sports archives, information and computer literacy, storytelling and heritage, and women in research. During the South African Women's month in August 2024 the LIS Department at Unisa together with the University Library and Information

Services, organized a grand talk exhibition commemorating the remarkable courage and solidarity shown by women who sacrificed immensely for the liberation, including those who were brutally murdered by the police on 21 March 1960 in Sharpeville.

The Department also organizes a Biennial Conference on Library and Information Science Research in Africa that strives to provide a forum for scholars from different countries to reflect on original and innovative ways of enhancing the role of information science and libraries and information services in addressing the socio-economic developmental issues globally and on the African continent and invites speakers from diverse background and perspective.

Towards re-imagining a social justice LIS curricula and scholarly publishing at a LIS Department in South Africa

This section draws from the literature and findings from the preceding section to re-imagine a curriculum and a scholarly publication with a social justice agenda at the LIS Department. It re-imagines a LIS curriculum that will intentionally place social justice in the classroom, in the pedagogy, research and extra curricula activities of the LIS school. It advocates for social justice to be weaved into the entire curriculum from Certificate, Diploma to Graduate programmes. For example: Munala, Allen, Beall and My Phi, (2023), in a public health social justice framework for curriculum reform advocated the need to create a coherent curriculum that seamlessly weaves social justice as the common thread throughout the curriculum. A Short Learning Programme or a Higher Certificate in Social Justice in LIS could be a good starting point. Singh and Rioux (2021) developed an Advanced Certificate curriculum in Social Justice for Information Professionals at St. John's University (SJU) for LIS practitioners and LIS students are explicitly grounded in social justice principles and concepts that seek to enhances capabilities to substantively counter racism challenges.

Prioritizing the needs of the diverse students in the Department and promoting inclusion should be at the core of the curriculum, bearing in mind the diverse nature of the Department and the future information professionals. Cooke, Sweeney and Noble (2016) noted that creating and maintaining elements of diversity and social justice across the LIS curriculum whether in stand-alone classes or woven throughout the curriculum, will enable students to come out of these classes with the ability to recognize, accept, and celebrate the differences that exist within the diversity. A standalone course in Social Justice in Library and Information Science that integrates diversity, inclusivity anti-racism, sexism, and survival in society should be offered at the entry level of the LIS curriculum. This course should seek to define social justice from an information science perspective, given that most students may not even have heard of the concept. The course should also include elements of digital access

and meta literacy in the era of disruptive technologies given that technologies offer opportunities to considerably increase the social justice impact of information institutions.

The Library and Information Association of South Africa (LAISA) should only grant accreditation for future LIS courses after verification that social justice is weaved in the curriculum. For example, Kumasi and Manlov (2016) reports on a study that examined the multicultural curriculum reform concepts and pedagogies implemented in core courses taught in LIS programs only after accredited by the American Library Association (ALA). Drawing from LIS social justice researchers (Cooke, Sweeney & Noble, 2016; Helkenberg et al., 2018; Mehra, 2021), the following are some social justice topics that could be benchmarked in the infusion of the social justice content in LIS curricula:

- Diversity/multiculturalism;
- Whiteness in LIS;
- Indigenization and decolonization;
- Inclusion advocacy,
- Diversity leadership in information organizations,
- Community-engaged scholarship and digital divide;
- Privilege/the Ivory Tower;
- Gender inequality/feminism,
- Environmentalism and sustainability.
- Accessibility, mental health;
- Privacy and surveillance;
- The commodification of information.
- Homelessness;
- Colonialism, immigration needs;
- Censorship and biases,
- Child rights.
- Africanization
- Youth need safe spaces.

In terms of pedagogy, the subject contents should be steeped in theories and critical thinking and diverse and multicultural activities that address social justice issues from an information science perspective. CRT feminist theory, Marxist theory should be prioritized in classrooms and research. Researchers have advocated that CRT, and its related concepts provide a structural framework for preparing LIS students and graduates to recognize and address racism, understand how power and privilege shape LIS institutions and professional practice and to embrace social justice as an LIS value. (Leckie & Buschmann, 2010; Cooke, Sweeney & Noble, 2016; Gibson, Hughes-Hassell & Threats, 2018). As Gibson, Hughes-Hassell

and Threats (2018) noted social justice should be showcased into theoretical frameworks and teaching in and out of the classroom, using innovative thinking and pedagogical practices beyond templates that encourages both curiosity and creativity for the reader. Critical thinking is about increasing and motivating students' knowledge and skills to challenge and discuss issues of social justice. It requires the participation and reflection of learners, in the knowledge process (Darder et al., 2009). For example, LIS educators may engage learners in the classroom discussions and dialog on the Eurocentric course content with an emphasis on deconstructing the status quo and making recommendations. Mehra (2021) applied critical pedagogies and reflective practices on the social justice topics taught at the University of Alabama since spring 2019. As an interdisciplinary field, the LIS Department could liaise with disciplines such as gender studies and social work, that are attuned to a wide variety of social issues on social justice to gain insights into their teachings and theories. It may encourage students to take up elective courses on social justice in these disciplines dealing with fairness, justice, equity, equality and change agency.

Extra-curricular activities at seminars, symposiums and community engagement by LIS educators provide opportunities for critical conversations in which aspects of social justice can be intermingled purposefully. Although the Department prides itself in celebrating diverse events, mainly celebrating diversity or multicultural events is not enough, the conversation on diversity is confined to race, ethnicity, gender, ability, language, literacy, geography and capitalism, this is enough. The Department can approach diversity and inclusion as broad issues, including digital inclusion, equity, digital literacy, education, sexual orientation and access to services for a marginalized population among others. Furthermore, it is instructive that the College of Information Studies at the University of Maryland hosted the 2014 *Symposium on Diversity and Library and Information Science Education* (Jaeger, Sarin & Peterson, 2015). The Department may also liaise with other disciplines to conduct community-engaged teaching on information work that further principles and actions related to social justice and inclusion.

Given that there is a clear deficit of social justice and race-related scholarships by academics, the university may consider providing researchers special incentives for publishing on social justice topics and for publishing critical scholarly publications using critical theories that go beyond quick-fix research as a form of research incentive.

The departmental accredited Journal may consider a Special Issue on Social Justice in Library and Information Science in Africa as noted in the following international examples; The Library Trends published a 2015 special issue on the topic of libraries and social justice. Also, the Advances in Librarianship book series published two edited volumes devoted to libraries and social justice in 2015 and 2016 (Gorham, Taylor &

Jaeger, 2016). In 2014, Archival Science published a special double issue on archives and social justice, focusing on the roles of archives in the creation, preservation, and use of documenting human rights crises (Caswell, 2014, 207). The special issue of Library Quarterly (vol. 83, no. 3) featured papers from the first symposium. This special issue also presented some of the many highlights of the 2014 symposium, with speakers converting their talks into articles that convey their key messages.

The LIS school should take advantage of its Biennial International Conference and consider organizing a conference with social justice as a theme. For example, social justice was the theme of the 2015 Association of Library and Information Science Educators (ALISE) conference. Such conferences provide an opportunity for open communication and dialogue that will provide LIS educators an opportunity to openly and freely unravel history, surface social justice issues confront the effects, and ultimately prioritize social justice in the research and scholarly publications. Given that the graduate program at this institution is offered purely on the suitability and viability of the intended research, with no course work, academics should ensure that students' proposed research topics have elements of social justice and students should also be encouraged to take up topics that are social justice related. Alternatively, the process of curriculum reform may consider infusing course work in the graduate degree program that will infuse social justice courses.

Conclusion

This essay re-imagines a social justice curriculum and scholarly publication for one of the largest LIS schools in South Africa. It advocates that the curriculum should intentionally be integrated into the classroom, teaching, research, and extracurricular activities from short learning programmes, certificate courses to the graduate level. If the primary mission of the LIS profession is to serve and transform their communities, it stands to reason that future information professionals should be equipped to meet the needs of the diverse communities for which they advocate. There is a dearth of empirical research on the practical roadmap on how social justice may be integrated into the curriculum, research and extracurricular activities in the LIS schools in South Africa. Also, incorporating social justice in the curriculum remains a systematic process with buy-in from different stakeholders, adherence to policies, and cost implications as the need may arise for additional staff for the new courses. It also requires an understanding of a social justice framework for curriculum design so that curriculum will be a socially just curriculum. Future research should focus on a broader sample of LIS schools with an in-depth quantitative and qualitative empirical investigation to establish how social justice can be integrated in LIS curriculum in South Africa. There is an urgent need to equip the next generation of information scientists with social justice education that will enable LIS professionals to provide brave and radical services to their communities. Educating committed, culturally competent information professionals is

crucial for a deeper understanding of inequalities in access to information, gender, race, privilege, and oppression, which are necessary for bridging racial inequity in society.

As LIS educators in South Africa are committed to exploring ways to educate for social justice and scholarly publishing championing social justice in the LIS curricula and scholarly publication at the largest LIS Department in South Africa is certainly a positive step in the right direction.

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Infrastructuring in a Socially Just Way: Lessons Learnt from a Grassroots Open Science Initiative in Africa

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Abstract

Open science could be seen as a mechanism to address knowledge production and dissemination issues thought to affect problematic and inequitable levels of African research visibility and productivity. Implementing such solutions, however, depends greatly on creating the research infrastructures that can support such an approach in appropriate ways. A key research problem emerges as to how to do infrastructuring work in this context in such a way that it promotes more sustainable, socially just and equitable outcomes. The essay will address this problem by proposing a framework for doing infrastructuring work in a socially just way and illustrating how it could be used through an examination of action research outcomes of a grassroots African open science initiative called LIBSENSE. Using the framework, an archive of documentation of LIBSENSE interventions and actions over a 7-year period are analysed. The results point to both affirmative and transformative infrastructuring work that align with social justice tenets, with the caveat, however, of a challenge to long-lasting, sustainable change.

Keywords: social justice, infrastructuring, open science

Introduction

Unequal levels of research visibility and productivity from the African continent as compared with other countries where such metrics are being collated have long been deemed to be problematic and inequitable (Gaillard & Mouton, 2022; Nwagwu, 2008; Tijssen, 2007). While it is acknowledged that low research visibility may be due to lack of discoverability in mainstream research output databases such as Web of Science and Scopus (Asubiaro & Onaolapo, 2023; Tennant, 2020), there is still a question as to whether lower research productivity may also be contributing to this issue, i.e., lack of output also leading to lack of visibility. This perceived lack of productivity could be the result of poor investment in resources, infrastructures and policies to support research across the continent (Ngongalah et al., 2018; Ocholla, 2011).

One way of addressing these issues has been through the promotion of open science as a means of both providing more accessible channels for dissemination of research outputs through green open access, for example, and for reforming the way science is done, through incentivising research differently (Mwelwa et al., 2020). Open science could therefore be a mechanism to address both the production and dissemination issues thought to exist in the African research context.

Research problem

Implementing open science, however, depends greatly on creating the research infrastructures that can support such an approach in appropriate ways. To deliver the expected seamlessness of open platforms, these infrastructures, in turn, depend on digital technologies and the underpinning digital readiness to support them. As so often happens, however, due to unequal access across the African continent to these technologies as compared to other countries, often referred to as a global digital divide issue (Gwynn, 2019), sustainable construction of appropriate systems and supporting processes is often difficult to achieve. We refer to this process loosely as infrastructuring work, which is explained further below. Another less visible issue is the potential for additional inequities to be built into the infrastructuring work done to achieve open science goals due, in part, to a failure to recognise systemic injustices that may influence the outcomes of such work. Existing cognitive injustices and postcolonial knowledge hegemonies are already seen to influence what knowledges are produced and disseminated globally (Nyamnjoh, 2012; Piron et al., 2016). In these contexts, the West is seen to dominate science and technology and the means of producing and disseminating knowledge. The key research problem then becomes how to do infrastructuring work in this context in such a way that it promotes more sustainable, socially just and equitable outcomes.

Objective

The essay will address this problem by proposing a framework for doing infrastructuring work in a socially just way and illustrating how it could be used through an examination of action research outcomes of a grassroots African open science initiative called LIBSENSE. This project has been sponsored by AfricaConnect (AfricaConnect, n.d.), a research infrastructure strengthening programme sponsored by the European Union, and undertaken by research and education network (REN) organisations across Africa in the past 7 years.

Literature review

Information infrastructures and research infrastructures

Research related to information infrastructures (IIs) evolved from a need to understand the socio-technical relationships and dynamics engendered by the pervasive development

and commissioning of large-scale computerised network infrastructures like the Internet (Edwards et al., 2009; Hanseth & Monteiro, 1998). These computerised networks provided the basis for the convergence of information and communication technologies (ICTs) and thus the emergence of new processes and practices realised by their affordances (Hanseth & Monteiro, 1998). A technical definition of IIs incorporates terms such as cyberinfrastructure or e-infrastructure, which emphasise the technical elements such as computer networking hardware, protocols and standards that enable connectivity, interoperability and standardisation (Kee et al., 2011), all of which are essential building blocks for many applications supported by ICTs. Initial work done by Star and colleagues (Star & Bowker, 2002; Star & Ruhleder, 1996) attempted to define the scope and complexity of IIs as large sociotechnical assemblages whose function became more defined as they became embedded in processes that people used to organise their work and social activities. Star and colleagues were keen to move the conceptualisation of IIs beyond their technical elements and their correlation with “substrates” or “scaffolding”, all of which suggested a “background” to social processes. Rather, they presented IIs as active agents in shaping and forming the processes that would eventually be supported by their underlying technical elements.

Following on from the seminal work by Star and colleagues, a considerable research stream has developed which generally supports the stance that IIs are relational in nature and that they encompass both social and technical elements in complex ways which are intertwined and context dependent. Research by scholars from the University of Oslo (Braa et al., 2007; Bygstad, 2010; Hanseth et al., 1996; Monteiro et al., 2014; Sahay et al., 2013) revisits a recurring theme in II discourse concerning dialectical tensions that IIs are thought to conceptually embody. The notion of flexible standards, e.g., is one such tension (Braa et al., 2007; Hanseth et al., 1996). IIs need to incorporate both the capability to grow and change (flexibility) to support new uses, processes and practices as they emerge with the use of the infrastructure and they also need to provide stable structures (standardisation) through which application providers can build on and improve services made available through the II. Another tension which IIs are thought to resolve is simultaneity of local-global constructs (Sahay et al., 2013). Local processes and practices can be implemented in multiple sites through the affordances realised by the existence of large scale global IIs.

This essay focuses on a specific kind of II, “research infrastructures”. The European Commission (2024) defines “research infrastructures” as *“facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. These include*

- *major equipment or sets of instruments*
- *knowledge-related facilities such as collections, archives or scientific data infrastructures*
- *computing systems*

- *communication networks*”.

Moving beyond this technical orientation, Anderson (2013) restates arguments similar to those already constructed for IIs, i.e., that research infrastructures evolve over time through processes of growth and stabilisation and that their conceptual definition can be located in the concepts of networks and systems, “systems that incorporate the needs of people, organisations, social, and economic factors” (p. 7). Several echoes of the defining characteristics of IIs are mentioned by Anderson when attempting to understand RIs, including that they: are incorporated into an already built environment; have spatial and temporal reach; are intrinsically part of a community of practice helping to shape those practices and members’ sensemaking; are invisible unless they break down. Anderson also emphasises understanding RIs within a cultural-historic context, i.e., the “long view of infrastructure” (cf. Jackson et al., 2007). She also introduces another dialectical relational element that underpins RIs, e.g., that they are both material/physical and digital/virtual. These concepts may co-exist where research infrastructures have a digital dimension or they may refer to separate parts of an extensive RI. The main difference between generic IIs and RIs lies in the communities of practice that they serve, i.e., researchers in various disciplinary fields, and what constitutes the key sharing component of the network, which appears to be “knowledge” in addition to information and data.

Infrastructuring and networks of action

Infrastructuring is defined as “the ongoing and continual processes of creating and enacting information infrastructures” (Karasti & Blomberg, 2018). The definition embraces an understanding that infrastructures are continually emerging and becoming through everyday practices, therefore researching them is more about understanding the processes involved than investigating them in stasis. In keeping with this processual view, infrastructuring is seen to be one of many similar terms suggesting the processual nature of infrastructures, e.g., “growing” (Edwards et al., 2009). Of particular interest to this essay is an emerging understanding of “infrastructuring work” as the processual view of all the activities involved “[in] captur[ing] interventions, actions, and transformations in designing and developing infrastructures” (Aanestad et al., 2014, p. 836) and the corresponding notion of the “work of infrastructuring”, understood to be how the developed infrastructures themselves then impact the organisation of work. This view supports a perspective that infrastructures and the practices they enable mutually shape each other. With respect to RIs, a similar view is suggested, e.g., in Anderson’s (2013, p. 11) observation that “libraries and archives become research infrastructures when their practices are in relationship to the practices of scholarship”.

Also of interest to this essay is the concept of “networks of action” (Braa et al., 2004), which position infrastructuring work in ICT4D (the field of information and communication technologies for development) as proceeding from pockets of action-related research which foster both innovation and standardisation (the dialectic nature of IIs) through networked capability-building. This concept was built on in previous work studying interventions in the LIBSENSE case (Abbott & Wagg, 2023).

Infrastructuring and social justice

Previous research related to infrastructuring and social justice appears to follow two related streams. The first investigates how infrastructures may lead to the maldistribution of access that often results in some communities/groups/nations being deprived of resources that are otherwise available in other contexts/situations. In terms of digital infrastructure this type of phenomenon is often referred to as digital divides (Lythreath et al., 2022) or digital exclusion (Ragnedda, 2018). According to Pawlicka-Deger (2021), “Infrastructure reveals a set of disturbing questions of inclusion/exclusion, connection/disconnection, and scaling up/down in the social configurations”. Focusing on the material aspects of infrastructure may surface mainly “first order” digital divide issues of access to infrastructure while socio-economic and literacy issues may be the more relevant and intractable issues to address (Helsper & Van Deursen, 2015; Van Deursen & Van Dijk, 2014). Research that emphasises these latter issues frame digital divides as “second-order” and “third-order” and therefore more about addressing the socioeconomic and political aspects of infrastructuring rather than its more instrumental ones (Eubanks, 2012). The second stream of work focuses on cognitive justice issues, i.e., the systemic and hegemonic oppression of indigenous knowledge systems by dominant and generally former colonial powers, also referred to as “epistemic violence” (Morris, 2010) and “epistemicide” (Ndlovu-Gatsheni, 2018). This stream of work focuses on how the development of research infrastructures may work against open systems for sharing and disseminating research (Albornoz et al., 2020; Herb & Schöpfel, 2018). Ultimately, those engaging in infrastructuring work cannot assume technological neutrality and need to be conscious of existing power relations and asymmetries which can become inscribed in these networks and systems (Pawlicka-Deger, 2022).

This essay builds on previous work which developed a social justice framework with which to understand how action research interventions in a large African research infrastructure project worked towards reducing injustices that persist in low-resource settings when ICTs are deployed to resolve development issues (Abbott, 2024). The concepts underpinning the framework were drawn from Nancy Fraser’s writings on social justice. Fraser’s social justice lens was used as a basis for that work. Fraser (2005, p. 73) defines social justice as: “parity of participation... justice requires social arrangements that permit all to participate as peers in social life. Overcoming injustice means dismantling institutionalized obstacles that prevent

some people from participating on a par with others, as full partners in social interaction". Fraser (1997, 2005) proposes three analytical dimensions of "injustice": socioeconomic, e.g., being marginalized socially/economically; cultural/symbolic, e.g., being culturally dominated by beliefs, norms etc., from other cultures or being rendered "invisible" or being maligned or disparaged by others; and politically, e.g. concerning how decisions are made about who should be entitled to just actions. She also argues that injustices can be remedied by two types of action, one "affirmative" and the other "transformative". Affirmative remedies are "aimed at correcting inequitable outcomes of social arrangements without disturbing the underlying framework that generates them" (Fraser, 1997, p. 23). These strategies accept that the existing social structures remain in place, while attempting to address them, i.e., the status quo remains (Luckett & Shay, 2020). Transformative remedies, on the other hand, are "aimed at correcting inequitable outcomes precisely by restructuring the underlying generative framework" (Fraser, 1997, p. 23). Such actions would tend to challenge the status quo. The key injustices identified for each dimension of remedy are explained as: maldistribution (socio-economic), where resources are not distributed fairly leading to distributive inequalities; misrecognition (cultural), where people are unable to participate fairly due to systemic bias against their specific cultural characteristics; and misrepresentation (political), where people are denied the opportunity to decide how they can participate in actions that would benefit them (Fraser, 1997, 2005; Hodgkinson-Williams & Trotter, 2018).

From the literature review, the following key themes can be summarised loosely into a framework with which to consider the case study being presented in this essay. To begin with, it can be assumed that developing research infrastructures to address the visibility of African scholarship using open science principles necessitates interventions that could be conceptualised as "infrastructuring work" in this context. For this infrastructuring work to achieve social justice goals, two aspects need to be considered. First, social justice issues related to the maldistribution of resources need to be considered, in this case, this will involve at least first order digital divide concerns such as access to digital technologies that are affordable and fit for purpose. Second, since the case involves applying open science principles to the research lifecycle, the cognitive justice issues related to embedded systemic asymmetries in knowledge production and dissemination need to be addressed. Third, both concerns may be remedied by relevant affirmative and transformative actions. In the case of the maldistribution social justice issues, affirmative actions would involve programmes to provide the physical infrastructures and policies for their use. These actions would not result in changes to the status quo underlying the existence of the maldistribution of resources, but would act within current structures to remedy its effects. Transformative actions, on the other hand, would address the underlying reasons for inequalities in the maldistribution of these resources, such as influencing political or socioeconomic structures.

In the case of cognitive justice issues, affirmative types of actions could ensure the wider distribution of African research through green open access, e.g., the wider uptake of open access repositories. However, more transformative actions would also need to address the political and socioeconomic issues which make this an enduring issue.

Methodology

The methodology adopted in this essay is a form of archival analysis (Das et al., 2018) using a digital archive of documents covering a period of LIBSENSE activity from October 2016 to December 2023. The activities recorded in the archived documents cover several categories: *Research* (Data Analyses; Data Gathering); *Dissemination* (Conferences; Articles/Papers); *Interventions* (Workshops; Webinars; Policy Development) and *Collaboration* (Project Proposals; Partner Events; Partner Projects; Collaboration agreements). The archived documents were coded using a bespoke coding scheme developed purposefully to examine the contribution of the documented interventions to various goals and objectives of the LIBSENSE project. The result of the coding scheme is presented in Table 1 below.

Table 1. Codes Applied to the LIBSENSE Archive of Documents

High-level Codes	High-level Code Description	Low-level codes	Low-level Code Description
Networks	Codes at high level any networks observable in the case study	Networks of actors	Actors involved in networks that accomplish activities in the initiative
		Networked activities	Activities accomplished by networks within the initiative
		Changing composition of networks	Networks not stable and changing according to goals/objectives/interests and so on.
		Actors' interests	Actors expressing interest in being part of the network
Goals	Codes at high level anything that looks like an objective or an aim that has been declared for the case study	Shared goals	Where more than one party shares the same goal
		Changing goals	Where goals seem to change over time

High-level Codes	High-level Code Description	Low-level codes	Low-level Code Description
Open Research	Codes related to activities that promote any of the major themes of open research	Open Science	Where the objectives of the activities are aligned with open science in general
		Open Access	Where the objectives of the activities are aligned with open access in general
		Open Data	where the objectives of the activities are aligned with open data in general
Making African Scholarship Visible	Where any activity, objective aligns with getting African Scholarship to be more discoverable, more visible to international audiences	N/A	N/A
Co-development	Code at high level any activities where co-developing with different groups is happening	Of research infrastructure	Activity involves building a research infrastructure
		Of research policy	Activity involves trying to develop research policy, e.g., open access or open science research policy with others

High-level Codes	High-level Code Description	Low-level codes	Low-level Code Description
Context	Code any activities that give an idea of any challenges or issues that might be happening in the environment surrounding this initiative	Funding	Sourcing funding for the initiative or projects coming out of the initiative
		Librarians' changing profession	Any issues related to librarians changing their skillsets, doing further training, doing capacity building etc.
		Higher education / university senior management	Lack of management support from higher education / universities
		Publishing	Ability or not of scholars to publish, e.g. lack of access to scholarly communications or library databases

Findings

LIBSENSE case study description

LIBSENSE, which is an acronym for “Library Support for Embedding National Research and Education Network (NREN) Services and e-Infrastructure”, has been described simultaneously as an initiative, a project, a network and a grassroots movement. It was conceived as a continent-wide operation to promote open science in Africa as a way to conduct research following “strategies and solutions that work in the African context”. It is mainly funded by AfricaConnect, a large infrastructural program to enable the “last mile” connectivity of African higher education and research institutions through leveraging technological capacity from existing research and education networks in Europe. As part the AfricaConnect programme, research and education network (REN) organizations (at national and regional levels) were instituted in Africa to provide coordinating structures through which network connectivity could be implemented in higher education and research institutions (Harle, 2017). The REN concept was borrowed from Europe and was seen as a potentially successful model in other LMIC contexts (Foley, 2016), in particular, in Eastern/Southern Africa, and was also actively pursued in the West African region.

In 2017, LIBSENSE was officially launched by the West and Central African Research and Education Network (WACREN) in partnership with two NGOs, Electronic Information for Libraries (EIFL) and Confederation of Open Access Repositories (COAR), and the University of Sheffield (UoS) Information School (IFLA, 2021). Given WACREN's remit as the coordinating body for 22 West African countries, their primary interest was in advocating for and providing key infrastructural services such as federated networks, broadband connectivity, high performance computing, and building standards for next generation open access repositories (OARs). They enlisted UoS to help co-develop a research agenda around the adoption of open access/science policies and practices as part of this infrastructuring work. Action research initiatives like LIBSENSE attempt to address the perceived weakness of African research environments and the consequent lack of visibility of African research which leads to social justice inequities and the potential for extractivist research practices (Abbott, 2024). LIBSENSE was addressing these issues through instituting open science principles following well-established practices of other global South initiatives, e.g., the pioneering work done by Scientific Electronic Library Online (SciELO) which operates mainly in Latin America and the Caribbean.

During the third phase of AfricaConnect funding (AfricaConnect3), the infrastructuring work of LIBSENSE was organised around three pillars: infrastructure development (open access journals, repositories for publications and data and open discovery services), policy development (open science policies, governance and leadership) and capacity building (communities of practice and training) (LIBSENSE, 2023). The main activities carried out by network members were advocacy and awareness-raising workshops bringing together academic librarians with technical experts from the RENs. A key message was that technology would be no problem while RENs were involved in providing infrastructure needs, however, uptake and implementation of new standards and processes around open access/science would need to be catalyzed by interventions from members in the network. After the initial advocacy and awareness-raising work, LIBSENSE began influencing future policy on how openscience would evolve in higher education and research institutions. The timeline of funded LIBSENSE interventions and the organisation of this work can be seen below in Figures 1 to 3.

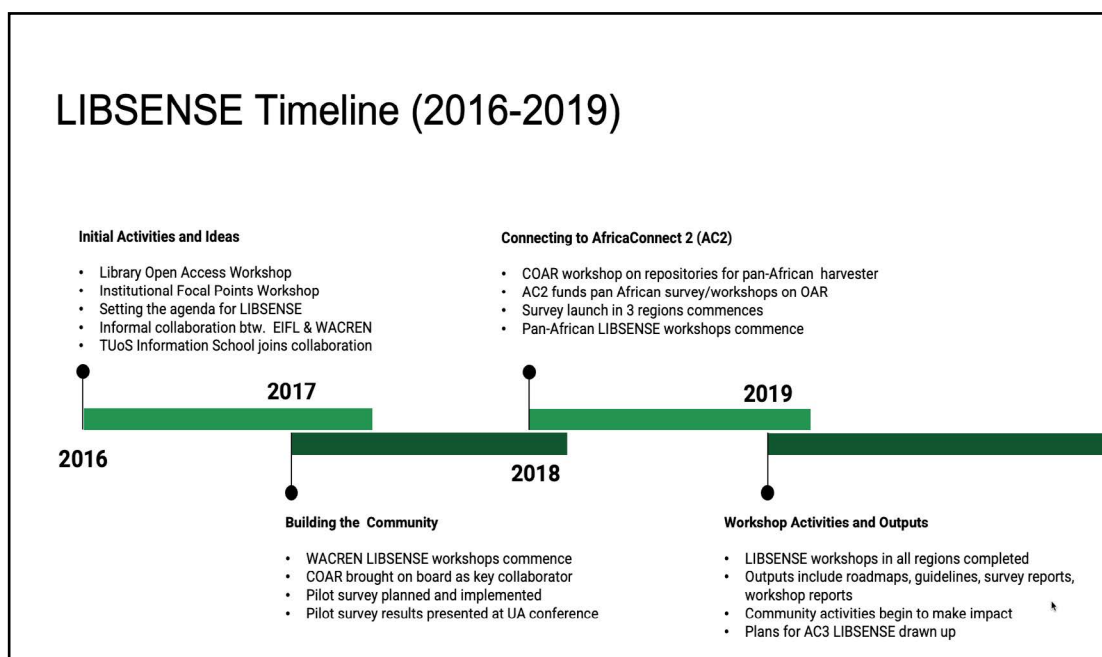


Figure 1. LIBSENSE interventions and activities under AfricaConnect2

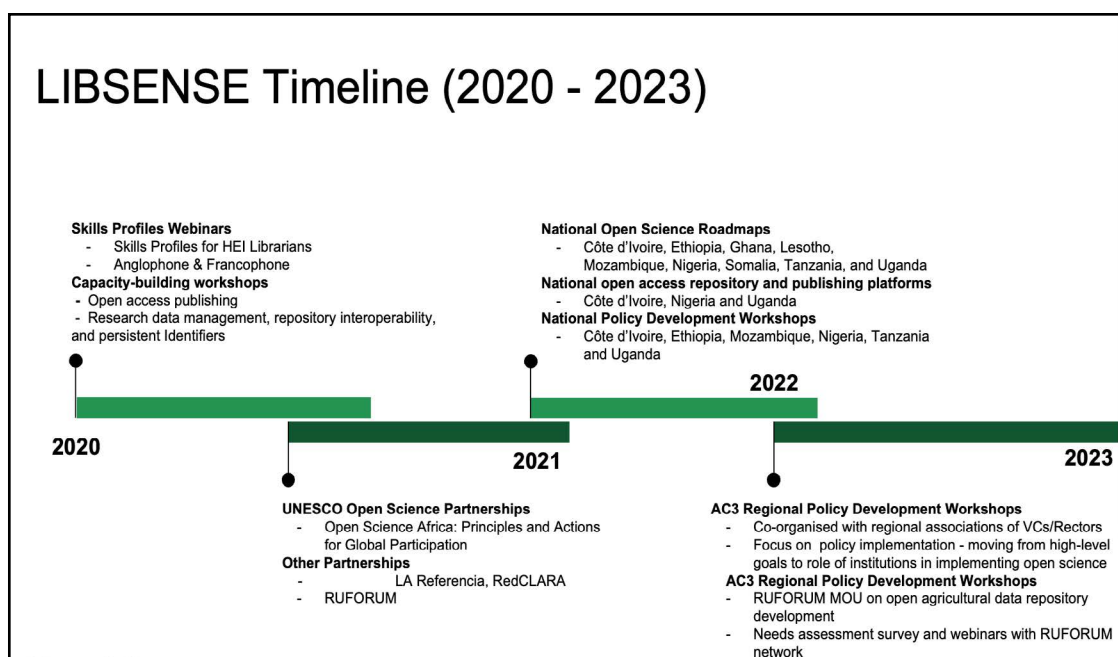


Figure 2. LIBSENSE interventions and activities under AfricaConnect3

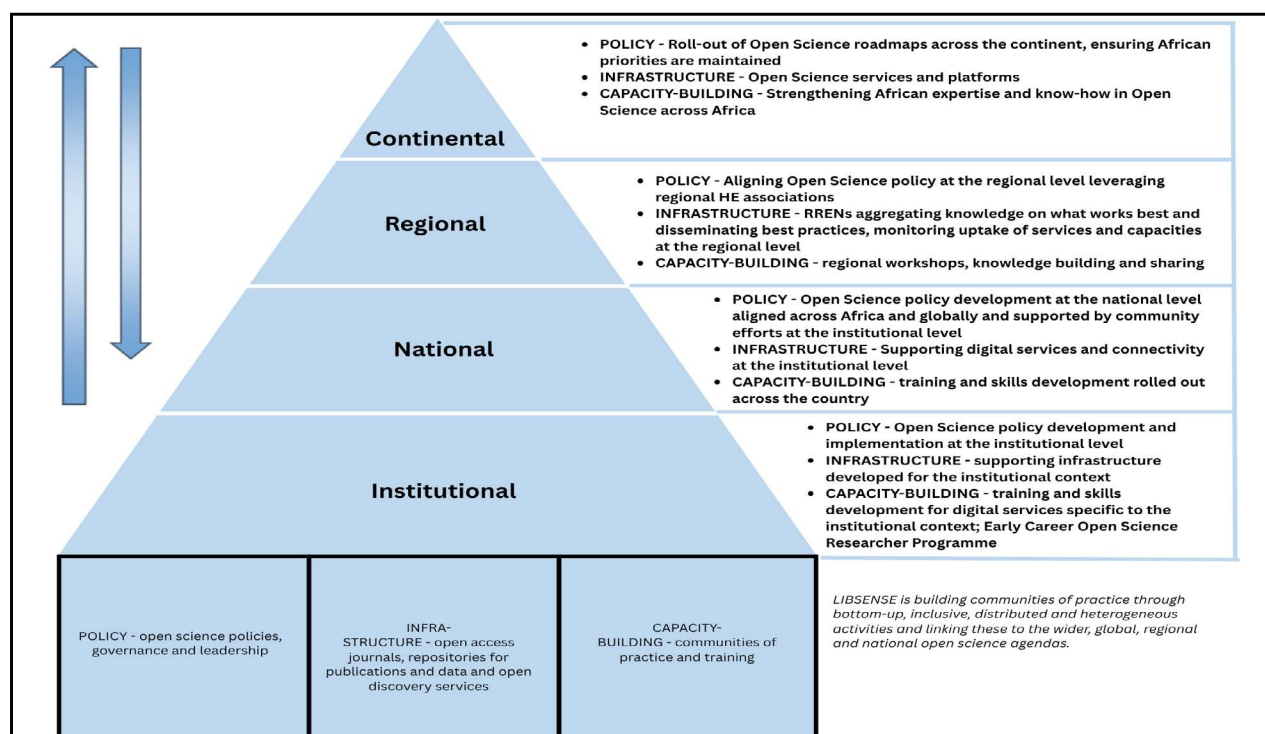


Figure 3. The organisation of LIBSENSE infrastructuring work under 3 pillars

Some selected example interventions of this infrastructuring work are described in the following section

Exploration of selected interventions

Intervention 1: LIBSENSE 3-region survey on Open Access Repository (OAR) development (2018 – 2019).

Description of the intervention

This intervention had two components and its scope was continent-wide. The intervention was instituted in all three geographical regions where there is a regional coordinating REN, i.e., West and Central, East and Southern and Northern Africa. The first component was a survey which was completed by HE librarians and REN representatives in their respective regions. The second component was a follow-on workshop launched in the corresponding region, which was co-hosted at the regional REN organization’s annual conference/meeting.

Objectives of the intervention

This objectives of the intervention were: (1) to develop and implement a vision of African Open Scholarship led by African Librarian Communities of Practice; (2) To establish and understand the drivers for, and the hindrances against, change that would deliver on this promise; (3) to determine “e-readiness”, i.e., the extent to which HEIs were building the necessary resources and capabilities to deliver digital innovations and (4) to determine the evolving role of the African HEI library in light of digitalisation.

Expected outcome of the intervention

A key expected outcome of this intervention was more collaboration between academic libraries and the country-level national RENs in the servicing and management of open access repositories (OARs) in academic libraries. Note that OARs are a primary means of facilitating green open access. This collaboration was expected to provide complementary technical skills to build the librarians' capacity in this area.

Intervention 2: Skills profiles development workshops (2020)

Description of the intervention

This intervention was initiated as a result of the 3-region survey and workshop intervention above, which concluded that there was low capacity around HEI librarians' skillsets for open science practices in general (Abbott et al., 2020). The scope of the workshop was also continental since it included participants from any of the regions served by the 3 regional RENs. The librarians themselves had collectively expressed skills deficits in the more technical aspects of supporting open science initiatives such as metadata development, back-end support of repositories, infrastructure support and other digital skills related to their work. The intervention was delivered as an online webinar, with several online 'streams' designed to cater for particular skills profiles identified as future proficiencies the librarians wanted to learn. Each stream was facilitated and the material co-developed by an African expert in that specific skills profile.

Objectives of the intervention

The aim of these workshops was to discuss the evolving skills profiles of the HEI librarians and to determine a set of preferred skills profiles to support ongoing digitalisation (e.g., OAR development, data analytics, support for Open Science) that suit an African HEI context.

Expected outcome of the intervention

The intervention was expected to engage HEI librarians proactively with the foresight of how their professional roles could develop to cater for the technological advances inherent in supporting open science practices. The skills profiles would provide them with tangible insights into the knowledge, skills and abilities needed to progress into these roles.

Intervention 3: Policy development workshop (2021-2022)

Description of the intervention

This intervention targeted senior university executives who were recognized as key in supporting institutional change and consisted of a workshop with three components. The first was sensitising the workshop attendees to the concepts of research assessment reform through a pre-workshop webinar on the topic (LIBSENSE-DORA, 2022) and a presentation by an expert in the area on the day of the workshop (LIBSENSE, 2021b).

The second was the presentation of a set of case studies created by African open access/science advocates to illustrate how African HEIs had developed/implemented open access/open science policies in their institutions and the subsequent lessons learnt (LIBSENSE, 2021a). The third was an interactive session where the invited senior executives engaged in discussions as to how they could develop similar policies in their institutions and catalyse change in a similar way. The scope of the workshop was both regional, since the participants were mainly from the WACREN region, and institutional, since the policy work was intended to influence that level.

Objectives of the intervention

The inspiration for the workshop stemmed from LIBSENSE aligning with the UNESCO recommendation on Open Science (LIBSENSE Working Group on Open Science policies, 2020). The broad aim was to establish how to move from the high-level goals and principles articulated in the recommendation to how institutions could implement related policies in practice.

Expected outcome of the intervention

The expected outcome was for the senior executives to consider how open science policy development in their own institutions could encourage research assessment reform and consequent potential benefits. For example, they were expected to understand how such reformed practices could free African scholars from the 'publish or perish' imperative of striving inequitably for representation in elite Western journals, which are mostly inaccessible in resource-poor institutions.

Intervention 4: RUFORUM open data sharing platform collaboration (2021 – ongoing)

Description of the intervention

In collaboration with RUFORUM, a pan-African network of agricultural research institutions, LIBSENSE is developing and piloting an agricultural research data repository (*LIBSENSE-RUFORUM – LIBSENSE, 2023*). The scope of this intervention is both continental and regional. Its implementation is intended to take place at the institutional level.

Objectives of the intervention

This intervention seeks to upgrade RUFORUM's Knowledge Repository by providing research infrastructure for Agricultural research data sharing and management, journal hosting and publishing and creation of open educational resources (OER) training material on research data management.

Expected outcome of the intervention

The expected outcome will be a new platform for agricultural open data hosted by RUFORUM with distributed access and stewardship across the RUFORUM membership.

Discussion

The discussion will explore how useful the framework introduced in the Literature Review is in uncovering potential areas in which the action-based interventions of the LIBSENSE project have the potential to either challenge existing systemic inequities or to provide pragmatic but non-transformative solutions to some of the issues identified as hampering the equity in research production and dissemination in the African context.

In the interventions described in the previous section, there is evidence of infrastructuring work that can be interpreted as affirmative. Intervention 1 was aimed at addressing the low implementation and uptake of OARs across Africa, gaps in higher education librarians' capabilities to support OAR development and inconsistent institutional support for OAR development. The intervention's approach was to raise awareness and build communities of practice around OAR development, both of which can be interpreted as affirmative, since they did not seek to address any systemic issues, but to work within the current status quo. The approach to the intervention 2 was to co-develop with leading African HEI librarians knowledgeable in open science practices a set of skills profiles that they believed would provide prospective professional roles to which their peers could aspire if they wanted to meet digitalisation challenges to their profession. To some extent, the action taken was affirmative in that it was seen as a capacity-building, awareness-raising exercise which worked within the existing structures to stimulate change. Intervention 3 sought to address senior HEI executives' assumed lack of sufficient exposure to open science policy implementation and its link to institutional research assessment reform. This was addressed, as in intervention 2, mainly through awareness-raising and introduction to global ideas on research reform through DORA initiatives (LIBSENSE-DORA, 2022), which can be seen as an affirmative action. The premise of intervention 4 was the technology obsolescence of RUFORUM's existing knowledge repository. The choice of an open science infrastructure solution in the form of an open data repository represents a step change for the RUFORUM secretariat bringing with it the need for significant capacity-building. The infrastructure re-development and capacity building efforts represent affirmative actions leading to addressing access, readiness and open data literacy issues.

The interventions also demonstrated efforts at bringing about transformative results through some of the actions taken, albeit in subtle ways. The 3-region survey and workshop approach of intervention 1 brought together communities of practice that did not 'talk to each other' previously. HEI librarians and REN representatives, each with their own professional

remits and expertise were brought into conversation with each other, bringing perspectives as to how to address the OAR problem. Though minor, this kind of intervention had the capability of transforming approaches to open science provision in a more collaborative way than had been conceived of before. It would address a systemic issue around HEI librarians' access and exposure to the technological aspects of implementing open science solutions while at the same time exposing REN representatives to the actual potential impacts of providing REN services. Intervention 2, following on from intervention 1 had the capacity to embed this systemic change to thinking. It created a 'future vision' of what the African HEI librarian professional could aspire to. This intervention challenged the status quo and demonstrated how capacity building could be achieved through leveraging the power of the LIBSENSE network's own expertise. Since the workshops were held online, their transformative potential was amplified by their greater (virtual) reach. Cognitive injustice issues are assumed to underpin issues face by African scholarship in the Western-dominated scholarly communications system. To address this, the intervention 3 workshops promoted policy change to propagate open science initiatives at the institutional level which would change not just the system of publishing African academic outputs but also the incentive structures through which academics gained institutional recognition and reward (i.e., promotion/tenure). This type of action would be considered transformative since it is agenda-setting and challenging the status quo. With intervention 4, the action of codeveloping of the new platform with RUFORUM actors has been critical to its current progress. This attests to a transformative, co-creation approach, incorporating beneficiaries' views into decision-making about the infrastructure design as it progresses. RUFORUM members are thus empowered to direct the development of the repository to assure their sovereignty over their datasets. This approach thus counters existing structures of decision-making by evolving a new approach as the repository is developed.

Some key implications can thus be drawn from the case study. The infrastructuring work taking place comprises *shared goals and objectives of a network of actors*. These goals depend on the composition of the network at any point in time, e.g., if stakeholders join the network to achieve a specific outcome in line with their own interests. This demonstrates affirmative and potentially transformative networks of action throughout the LIBSENSE project's lifetime. Although subject to change, these goals broadly encompass the open science agenda espoused by the project and notions of cognitive justice related to enhancing the global visibility of African scholarship. The *co-development of research infrastructure*, i.e., the building of physical and digital infrastructure on which services can be mobilized themselves shape the research environment, e.g. the RUFORUM open data collaborative project. This represents the 'work of infrastructuring' which begins to build further outcomes on what the project initially achieves thus leading to potential transformative outcomes.

The LIBSENSE initiative benefits from the *contingent nature of the interactions, connections, relationships that are developed within the network and beyond*, spawning projects, linkages, partnerships etc. that work together towards shared goals. There is evidence of these networks of action achieving affirmative outcomes and depending on the action, potentially transformative ones. There is *fragility but also sustainability in the network*; structures are developed, like the RENs, but are very dependent on heroic efforts of individuals to sustain them; institutions are weak in their support, sustained activity is dependent on external funding, undermined by a constantly changing context e.g., librarian's professions (digitalisation effects, e.g.), publishing (industry, access etc.). Both affirmative and transformative actions are challenged by such an environment and may struggle to achieve long-lasting change.

Conclusion

This essay presented initially a persistent issue of lack of visibility of African scholarship with which the academic community is wrestling on an ongoing basis. It posited that applying open science principles could be a potential solution, but that this required robust research infrastructures. The essay subsequently presented some concepts around how such infrastructuring work could be achieved in an African context and it analysed the work currently underway through one such project, LIBSENSE, a REN-based initiative. The analysis of the project using the framework inspired by literature on infrastructuring and social justice reveals the potential for change but with the caveat that such change may be temporary and may also not be able to address the more systemic issues adequately. More has to be done to examine underlying systemic biases at regional, national and global levels to start to conceive programmes and initiatives that can offer more sustainable solutions.

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SECTION D

Scholarly communication and LIS curriculum realignment

Decolonizing LIS curricula: advancing social justice through scholarly communication in Africa

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Abstract

This essay addresses the critical need to decolonize Library and Information Science (LIS) curricula in Africa, as the field remains heavily shaped by Western models. Colonial legacies continue to affect African scholars, who are often expected to publish in high-impact, English-language journals that are based in the global North, thereby reinforcing a colonial knowledge hierarchy. Open access (OA), although intended to democratize information, often favors Northern publishers and standard academic metrics, thereby limiting African perspectives in global research. Social justice is proposed as a framework for decolonization in LIS, emphasizing curriculum realignment to support equitable knowledge access, inclusivity, and the recognition of indigenous knowledge systems. Incorporating Diamond Open Access models into LIS curricula is suggested as a way to empower students and faculty to champion more equitable scholarly communication and alleviate the financial burdens faced by African researchers in subscription-based publishing. The essay advocates for LIS curricula that prepare information professionals to foster inclusivity in scholarly communication, ensuring visibility for underrepresented voices and indigenous knowledge. It calls for integrating an Indigenous Paradigm, which promotes epistemological pluralism and validates indigenous research methodologies, thus advancing epistemic justice. It concludes with recommendations for LIS curriculum realignment, focusing on diverse perspectives in scholarly communication. Key topics include indigenous knowledge, community engagement, cultural sensitivity, and sustainable, community-oriented research practices. Through these approaches, African LIS education can move beyond colonial structures, thereby fostering a justice-oriented pedagogy that addresses the unique information needs of African societies.

Keywords: curriculum realignment, social justice, open access, scholarly communication, LIS curriculum

Introduction

The field of Library and Information Science (LIS) in Africa is being transformed to align with the continent's cultural diversity owing to the fact that, traditionally, the discipline is shaped by Western paradigms due to the influence of colonialism. The practice of scholarly communication, a sub-field of LIS, remains heavily influenced by colonial frameworks especially in today's era of open access (OA) publishing which offers freely available, digital, online information. According to Cornell University Library (2024), open access scholarly literature is free of charge and often carries less restrictive copyright and licensing barriers than traditionally published works, for both the users and the authors (Cornell University Library, 2024). As well intentioned as OA publishing is, especially in terms of making knowledge freely available to all, scholars have pointed out its shortcomings. Jimenez, Vannini, and Cox (2023) criticized the global scholarly publishing system, which, according to the authors, is largely controlled by entities in the global North. This system, dominated by English-language journals and metrics like impact factors, marginalizes research from the global South, effectively rendering non-English publications invisible (Albornoz et al., 2020).

Scholars in the global South face pressure to publish in these prestigious Northern journals, often at the cost of adhering to Northern intellectual frameworks and research agendas (Gwynn, 2019). This dynamic reinforces the colonial structure within which academic libraries operate, embedding them further in a colonized system of knowledge production and dissemination. According to Jimenez, Vannini, and Cox (2023), the issue equally extends to information literacy, where there is an uncritical emphasis on high-impact sources found in systems like Web of Science and Scopus, despite their inherent biases. The broader power structures of capitalism, patriarchy, and racism also play a role, as evidenced by the dominance of commercial publishers and the managerial, neoliberal approaches to library management (Mirza & Seale, 2017). The architecture and décor of libraries, often reflecting European traditions, further exemplify the colonial legacy, creating spaces that subtly reinforce historical privileges linked to colonialism (Beilin, 2017; Brook et al., 2015).

This dominance of Western epistemologies poses serious setbacks to the inclusivity and diversity of LIS curriculum in Africa as it perpetuates power imbalances and marginalization of African knowledge systems. This has brought to the fore the need to decolonize education in the field and build a much more inclusive and equitable information landscape. It equally entails revising or developing curricula that would address the needs in African communities and free LIS curricula from power imbalances that have historically sidelined African perspectives. There is thus a pressing need to address these colonial legacies and promote the decolonization of scholarly communication within LIS with a view to developing decolonial curricula for LIS programs in Africa and thereby achieve social justice.

The rest of this essay is structured as follows: the next section details the research objectives, followed by the methodology. A brief background to the concept of social justice, its origins and John Rawl's theory about the concept is then presented; next, the link between concept and LIS is discussed followed by a discourse on the decolonization of LIS curriculum in Africa from various perspectives; the pertinent issues around decolonization of LIS curriculum through scholarly communication to ensure social justice are then discussed; the conclusions and recommendations finalized the essay.

Purpose and objectives

The main purpose of this essay is to propose a framework for decolonizing Library and Information Science (LIS) curricula in Africa, using social justice to foster equitable knowledge access, inclusivity, and the recognition of indigenous knowledge systems, thereby advancing epistemic justice in scholarly communication. Towards this end, the specific objectives of the essay are to: (i) contribute to the discourse on social justice with focus on decolonization of scholarly communication and LIS curricula in Africa from regional perspectives, (ii) examine the association between scholarly communication and decolonization efforts from the African perspective and discuss its implications for LIS curriculum design and implementation in African educational institutions, and (iii) make recommendations for achieving social justice through decolonization of scholarly communication and LIS curriculum in Africa.

Methodology

This conceptual cum qualitative essay employs a comprehensive methodology to examine social justice through the realignment of LIS curricula, with a focus on scholarly communication. The study utilizes a qualitative approach, combining theoretical analysis, desk research, and empirical data collection through key informant interviews. The theoretical analysis forms the conceptual foundation of the essay, exploring key concepts and discussions on social justice in LIS curricula. Desk research involves a thorough content analysis of literature on decolonization, social justice, and LIS in the South African context, identifying themes and patterns relevant to the study's focus. The empirical component, which is limited to the west African sub-region, includes key informant interviews conducted with faculty members at four universities in the West African sub-region: University of Ghana, Legon (2), University of Ibadan (1), Federal University of Technology, Minna (1), and University of Calabar (1). Participants were selected based on their involvement in LIS education and curriculum development, ensuring a diverse sample. Data from the interviews are presented in narratives, capturing the participants' views and experiences. Thematic analysis is employed to identify recurring themes and patterns in the interview data. The integration of theoretical and empirical findings provides a comprehensive understanding of how to achieve social justice through the realignment of LIS curricula. The fact that the empirical aspect covers only West Africa is acknowledged as a methodological limitation.

Conceptualizing social justice

Social justice is a multifaceted concept that encompasses the fair and just distribution of resources, opportunities, and privileges within a society (McArthur, 2016). According to Sensoy and DiAngelo (2017), social justice is grounded in the belief that all individuals deserve equal rights and access to opportunities, regardless of their race, gender, socioeconomic status, or other characteristics. As noted by Capeheart and Milovanovic (2020), one of the core principles of social justice is equity, which goes beyond equality by recognizing that different people have different needs. Equity seeks to provide individuals with the resources and opportunities they need to achieve an equal outcome, rather than merely offering the same resources to everyone (Jurado de Los Santos et al., 2020). This principle is particularly important in areas such as education, healthcare, and employment, where marginalized groups often face barriers that are not present for more privileged individuals (Livingston, 2020; Poekert et al., 2022; Wolbring & Lillywhite, 2021). There are thus many definitions and perspectives to the concept, some leaning more towards issues of diversity, others that emphasize human rights, and still others that promote radical action. Generally, it can be defined as the fair, equitable, and just distribution of privilege, opportunity, and resources among all individuals, groups, and communities in a society (Sullivan et al., 2023). The common thread through the diverse definitions is the desire to disrupt the status quo. Thus, social justice is about giving voice to communities who have been forced into silence; social justice is about equity and equal access (Humboldt State University, 2015). Gray Group International (GG Insights, 2024) added its voice and noted that in today's society, the concept of social justice has become increasingly important in all aspects of our lives, including education and the responsibility of educators is to ensure that every student has access to equal opportunities and resources to optimally thrive academically and personally (GGI, 2024).

Historically, the notion of social justice goes back thousands of years. There's evidence that philosophers such as Plato (427–347 B.C.), Thomas Aquinas (1225–1274), and Immanuel Kant (1724–1804) addressed social justice issues. Both Plato's and Aristotle's writings centered on the importance of justice and fairness in society (Maurya, 2021). Themes of justice and injustice have also been found in religious texts and practices (Informa Plc, 2024). The injustices and economic issues brought on by war, the Great Depression, and the dismantling of colonial empires in the first half of the 20th century led to efforts to codify a moral code with social justice at its core which led to the U.N. (United Nations) Charter in 1945, and the Universal Declaration of Human Rights (UDHR) – drafted by a U.N. committee chaired by Eleanor Roosevelt – in 1948. (Informa Plc, 2024). The UDHR covered more than traditional Western civil rights, despite limited input from the African regions that were still under colonial rule. It included two categories of rights: political/civil and social/economic (Informa Plc, 2024).

However, the modern understanding of social justice emerged in the 19th and 20th centuries, as thinkers and activists began to challenge the social and economic inequalities that were prevalent in industrialized societies (Craig, 2021; Meringolo, 2021). This period saw the rise of movements for labor rights, women's suffrage, and civil rights, all of which were driven by a commitment to social justice. According to Capeheart and Milovanovic (2020), social justice also involves the recognition and protection of human rights. This includes not only civil and political rights, such as the right to vote and freedom of speech, but also economic, social, and cultural rights, such as the right to education, healthcare, and a decent standard of living (Anastasiou & Bantekas, 2023; Bhat et al., 2022). The protection of these rights is essential for ensuring that all individuals can participate fully in society and lead dignified lives.

In recent years, the concept of social justice has gained increased attention in the context of movements across Africa. The Arab Spring began in Tunisia in December 2010 and spread across North Africa and the Middle East. The movement was driven by demands for political freedom, economic opportunity, and an end to corruption and authoritarian rule. It led to significant political changes in several countries, including the overthrow of long-standing regimes. The #RhodesMustFall movement in South Africa began in March 2015 at the University of Cape Town, demanding the removal of a statue of Cecil Rhodes, a symbol of colonialism and white supremacy (Ahmed, 2020). The movement quickly expanded to address broader issues of decolonization and institutional racism in South African universities. It inspired similar movements globally, including at the University of Oxford (Cabe, 2023). In Nigeria, the End SARS protests gained prominence in October 2020, calling for the disbandment of the Special Anti-Robbery Squad (SARS) due to widespread police brutality and human rights abuses (TrustAfrica, 2023). The protests, largely driven by young Nigerians, led to the government's announcement to disband SARS, although the movement continues to push for broader police reforms and accountability (TrustAfrica, 2023). In 2024, Kenya witnessed unprecedented nationwide protests led by Generation Z. Initially focused on rejecting the Finance Bill, the protests evolved to address broader issues such as police brutality, corruption, and broken political promises (Lynch, 2024). The movement, characterized by its use of social media for mobilization, has been notable for its intensity and the government's harsh response. The Lumumba Youth Movement in the Democratic Republic of Congo focused on promoting democracy, human rights, and social justice. It has been active in advocating for political reforms and challenging authoritarian practices in the country (TrustAfrica, 2023). These movements highlight the diverse and dynamic nature of social and political activism across Africa, each addressing unique regional challenges while contributing to the broader struggle for justice and equality. The "Black Lives Matter" and "Me Too" (Levy & Mattsson, 2023; Ozbilgin & Erbil, 2021) are other examples from the context of South Africa.

The authors noted these movements have brought to light the pervasive nature of systemic racism and gender-based violence, highlighting the urgent need for societal change. They have also underscored the importance of intersectionality, which recognizes that individuals may experience multiple, overlapping forms of discrimination and oppression. However, one area where the importance of intersectionality is particularly evident is in the criminal justice system, where racial and economic inequalities intersect to create profound disparities in outcomes (Stubbs, 2020). While supporting the foregoing, Lopez and Pasko (2021) explained that Black and Latino individuals are disproportionately represented in the criminal justice system, both as victims of police violence and as incarcerated individuals. According to Jeffers (2022), these disparities are not simply the result of individual bias or discrimination but are deeply rooted in the history and structure of the criminal justice system itself.

Among the modern theories are John Rawls' theory of justice (Rawls, 1999), which argues that our behavior is influenced by the institutions we create, and Nancy Fraser's three dimensions of social justice (Fraser, 1998): redistribution (of resources), recognition (of marginalized groups) and participation (of individuals and groups) (Informa Plc, 2024). Fraser's model of social justice has three modes of social ordering: economic, cultural and political. Social justice is achieved through redistribution of the resources of society (i.e., the economic mode), 'recognition' or parity of esteem (i.e., the cultural mode), and equity of representation (i.e., the political mode). In terms of a curriculum, redistribution is achieved through sharing knowledge and expertise as well as more tacit qualities such as qualities of professional practice and behavior (Winberg & Winberg, 2017).

Social justice in the context of LIS

As presented in the preceding section, social justice has various definitions, focusing on diversity, human rights, or radical change, but all share the goal of challenging the status quo. It involves amplifying the voices of marginalized communities and ensuring equity and equal access. Pateman and Vincent (2012), in their work, *Public Libraries and Social Justice*, argue that libraries and information professionals should actively engage with communities to address their needs and promote social justice. To Humboldt State University (2015) "Social justice is about giving voice to communities who have been forced into silence; social justice is about equity and equal access." Marcella and Chowdhury (2020) also stated that one of the central tenets of social justice in LIS is equitable access to information. Libraries serve as gateways to knowledge, but access to these resources is not always equally distributed (Abumandour, 2020). Factors such as socioeconomic status, geographic location, race, and disability can create significant barriers to accessing library services (Ward-Sutton et al., 2020). In response, LIS professionals advocate for the removal of these barriers through initiatives such as expanding digital access, providing resources in multiple languages, and creating inclusive spaces that welcome diverse populations (Palfrey, 2020).

Social justice has thus emerged as a critical lens through which Library and Information Science (LIS) professionals examine their practices, policies, and roles within the broader community (Mehra, 2021, Rubin & Rubin, 2020). As institutions committed to the free flow of information, libraries have long been associated with the principles of equity and access (Adedokun & Zulu, 2022). Patin et al. (2021) noted a critical aspect of social justice in LIS is the representation and inclusion of marginalized voices in library collections and services. Historically, library collections have often reflected the dominant cultural narratives, with materials by and about marginalized groups underrepresented (England, 2023). In addition to collection development, social justice in LIS also involves rethinking library services to better serve marginalized communities (Winberry & Bishop, 2021). More so, Dali and Caidi (2020) observed that the role of LIS professionals as advocates for social justice extends beyond the walls of the library. The authors noted that librarians and information professionals are increasingly engaging in advocacy work to address broader social issues that affect their communities, such as educational inequity, digital divide, and censorship.

However, one of the significant challenges in promoting social justice in LIS is addressing the systemic inequalities that exist within the profession itself (Poole et al., 2021). The LIS field, like many others, has historically been dominated by white, middle-class individuals, and this lack of diversity can impact the profession's ability to serve diverse communities effectively (Inskip, 2023; Mehra & Gray, 2020). Contributing further, Mehra (2021) noted that the integration of social justice into LIS education is another critical area of focus. LIS programs are increasingly incorporating social justice principles into their curricula, emphasizing the importance of equity, inclusion, and advocacy in library practice (Patin et al., 2021). A social justice reform agenda therefore requires an approach to curriculum, as Anwaruddin (2016) argues, with less of an interest in what curriculum is than what curriculum does, that is, the role that curriculum plays in relation to inequality. Raju (2022) noted that while inclusivity is central to social justice, so, too, is the dismantling of structures that perpetuate inequalities. The theory of social justice is centered on the notion that a society cannot be just until there is equity, which includes equitable access to scholarly literature (Raju, 2022).

Challenges and options for decolonizing LIS curriculum in Africa

Following their respective independence milestones, many African nations recognized the urgent need to revitalize their social, political, and economic systems, which had been distorted during the colonial era (Foga, 2020). Across the continent, there was a widespread call for the revival and reclamation of their heritage - a demand to restore their lost identity, culture, philosophy, and language. This movement sought to acknowledge and harness Africa's vast potential, which had long been marginalized (Foga, 2020). Each country, though achieving independence at different times, shared a common goal of overcoming colonial legacies and forging a new, empowered path forward. Further, the author

highlighted South Africa as an example, noting that the advent of democracy brought with it the need to reform university curricula by moving away from Eurocentric frameworks and languages, and instead towards incorporating South African perspectives, languages, and history. However, this goal remains largely unmet. The absence of African epistemologies, worldviews, languages, and discourses in university curricula led to growing demands for decolonization (Santos, 2014). These demands fueled widespread protests, most notably during the #RhodesMustFall movement in 2015, where students called for a departure from Eurocentric principles and the inclusion of African history, philosophy, language, and knowledge systems in university curricula (Heleta, 2016). Even after twenty-five years of independence, South African universities continue to reflect Western dominance, with curricula still deeply entrenched in colonial thought. The ongoing reliance on Western theories and texts poses significant challenges for curriculum designers, policymakers, and stakeholders as they struggle to dismantle these entrenched systems despite calls for decolonization (Hamadi, 2014). Moreover, in the 21st century, African scholars and writers (Mbembe, 2016; Wa Thiong'o, 1981, 1993; Ndlovu-Gatsheni, 2013; Fanon, 2014; Said, 2014) have strongly protested against the ongoing dominance of Western epistemology in universities (Foga, 2020) arguing for inclusion of African knowledge, philosophy, and values—such as discourse and thought - at the forefront of university education.

In addition to the efforts towards decolonization in South Africa, several other African countries have undertaken initiatives to decolonize their LIS sectors, with varying degrees of success. The situation in two West African countries - Ghana and Nigeria (with data collected from four universities) are presented to provide valuable insights into the progress so far made in the process of decolonizing curricula in the selected universities. The following questions were posed to the respondents:

1. What modules are in place to expose students to the fact that local knowledge systems and research are not very visible in the global canon, and that we tend to privilege the concepts, ideas, and theories of the West or Global North at the expense of our own knowledge systems and ways of knowing?
2. Apart from having courses on IKS in your LIS curriculum, what else is there that creates that awareness in graduates so that they too can play a role in decolonizing our education systems - through collections, information literacy programs, etc?
3. How can social justice be used to realign LIS curriculum through Scholarly Communication?

The results are presented in narratives as follows:

Ghana

Two respondents were interviewed at the Department of Information Science, University of Ghana, Legon.

Respondent 1

At the Department of Library and Information Science, University of Ghana, within existing courses such as Information in Society, Information Management & Records Management, User Services, Literature for Children, Administrative History among others, there is intentional critiquing of the historical and ongoing influence of Western knowledge systems on information production, dissemination, and access as well as exploring alternative information systems and practices from non-Western cultures, particularly within the Ghanaian context. There is also the opening up of discussion on the colonial legacy in archival and records management practices, including how power dynamics influence what is preserved and how it is accessed. Students are being introduced to community-based archives and knowledge preservation initiatives that center local control and ownership of information and incorporating case studies and discussions on how information management practices can support social justice and decolonization efforts. Emphasis is placed on the importance of cultural competency and understanding diverse user needs, particularly in the context of a multicultural society like Ghana and to explore how libraries and information centers can serve as spaces for cultural expression, community building, and decolonization.

Courses are structured to explore the representation of diverse cultures and perspectives in literature including works by African and Ghanaian authors and illustrators, and to encourage discussions on the importance of cultural representation in literature. The potential curriculum elements for the decolonization in LIS after the ongoing curriculum review include the introduction of the following courses: Indigenous Knowledge Systems (IKS), community engagement (focuses on how LIS professionals work with local communities to preserve and promote their knowledge systems) and research methods (that prioritizes and respects local knowledge systems and ways of knowing). Efforts are equally ongoing to incorporate in the curriculum avenue for students and faculty to examine the ways in which power operates in information and knowledge systems and how LIS professionals can challenge these power structures.

Respondent 2

The interviewee opined that:

... the University of Ghana does not currently offer specific courses or modules focused exclusively on decolonizing the LIS curriculum or emphasizing Indigenous Knowledge Systems (IKS). Our curriculum is aligned with international standards, but we do not have targeted interventions or courses that address the issues that border on decolonization. However, our faculty incorporates diverse perspectives and critical thinking into various courses to encourage students to question dominant narratives and consider local contexts. Nevertheless, we acknowledge the importance of decolonizing education and are open to exploring innovative approaches. Regarding social justice and Scholarly Communication, our university values equity and inclusivity. Still, we do not have explicit programs or courses that directly realign the LIS curriculum through social justice. (Respondent 2, University of Ghana, Legon)

Based on the above, it is evident that the University of Ghana is making efforts towards decolonization of curriculum with the introduction of new courses.

Nigeria

Interviews were conducted in three universities:

Department of Library, Archival and Information Studies, University of Ibadan, Nigeria

Respondent 1

Our department offers IKS courses. We also offer oral archives for recording of local information not in publications yet. I believe that is a way of collection development on indigenous knowledge and local culture and history. Much of the LIS courses we offer are not necessarily colonial but conform to world standards of information acquisition, organization, management and dissemination. Even in courses like engineering, law and medicine, world standards are the goals. Although Information Repackaging is not a separate course, it is subsumed within readers services, which is a way of providing locally relevant information. This could be in form of translations, music and dance, charts and other locally appealing forms of the original information. The question of social justice and LIS is a hard nut to crack. But we teach inclusiveness in collection development (to provide also for those with special needs), readers services and design of library buildings (which for now isn't a separate course in the curriculum but treated under Architect's Brief in Library Administration). Perhaps, the philosophy of collection development that does not encourage bias in the selection is a way of ensuring balance in the library collection for social justice. Overall, the Common Core Minimum Academic Standards (CCMAS)

imposed on Nigerian universities does not allow much flexibility in curricula development.

Department of Library and Information Science, University of Calabar

Respondent 2 opined that:

...courses in Indigenous Knowledge Systems are not a component of LIS curriculum at UNICAL. As you are aware only 30% of CCMAS is handled in the Department and hence not much is expected from the Department in respect of the concern raised. Maybe in future, your concern may come to attention of the stakeholders in LIS nationally as the National Universities Commission (NUC) has taken over the job of universities through CCMAS.

Department of Library and Information Technology, Federal University of Technology, Minna

Respondent 3 submitted that:

Yes, we have few courses around Indigenous Knowledge Systems (IKS) at 200L and 500L, oral tradition and cultural literature and literature for children and adolescents. But beyond that, I think decolonization of LIS curriculum and embedding IKS depends on the lecturers and the regulatory body, NUC. NUC needs to first shift its mindset from being 'rigid' with certain aspects of our curriculum to allowing institutions have autonomy over what they feel is 'indigenous' to them. This has always been the "fight" between institutions and NUC, and the "fight" is further aggravated with the recent adoption of CCMAS. The 30% that is left for department is too little to actually decolonize whatever concept the department would love to see.

The respondent submitted further: *Then, upgrading the skillset of lecturers around IKS and especially leveraging Open Access would further help to contextually deliver lectures around IKS and to also inform their students about how to leverage Open Access to communicate indigenous scholarly outputs and be visible. Nonetheless, lecturers (in terms of teaching and research) and libraries (in the areas of collection development, information literacy programs, etc) can still play their roles by intentionally upgrading their skills around IKS and open access and embedding that expertise in the discharge of their duties to the students and the university community.*

From the narratives above, not much has been achieved in the area of decolonization of LIS curriculum owing to the fact that Nigeria, through its regulatory body, the National Universities Commission, over-centralized development of curricula leaving little room for innovation in the universities to address decolonization.

There was nothing in the universities on how to ensure social justice through scholarly communication.

In addition to the situation in the institutions from Ghana and Nigeria which revealed some attendant challenges constraining efforts towards decolonization, the literature further documents that despite its importance, decolonizing LIS education and research in Africa faces several challenges (Day et al., 2022; Raju, 2022). In the case of South Africa, these challenges stem from the country's complex landscape, burdened by social inequality, gender disparities, racism, nepotism, and the harmful effects of neoliberalism and globalization. In addition is the dominance of Western epistemologies and methodologies in academic institutions and publications (Mbembe, 2016); lack of resources and infrastructure to support indigenous research (Ngoepe & Saurombe, 2016, Ocholla, 2020, Omarsaib et al., 2023); language barriers (Ouane & Glanz, 2011; Ocholla, 2020; Leibowitz, 2017) leading to advocacy for the reform of LIS education and training programs in Africa (Raju, 2022) particularly through promotion of African indigenous knowledge systems and methodologies in the curriculum and research of African universities (Mawere, 2014; Reid, 2018).

Furthermore, the presence of multiple languages in many countries on the continent creates a barrier to curriculum reform, as not everyone is proficient in all the languages spoken (Heleta, 2016). The complexities and lack of confidence among African educational leaders also present a significant challenge. Heleta points out that many influential Africans and interest groups may resist and undermine decolonization efforts in order to protect their own positions and interests, while some of them even believe that Africa lacks a sufficient body of knowledge or intellectual tradition from which they can draw (Heleta, 2016). In spite of these challenges, the time has come for Africa to take concerted efforts towards decolonization of curriculum so as to train professionals who would be in the vanguard of ensuring inclusivity and diversity in protecting the continent's rich cultural heritage.

These challenges, no doubt remain hard nuts to crack in the quest to decolonize LIS curricula in Africa as what options are open to LIS schools on the continent. Scholars like Jansen (2017) and Keet et al. (2017), even suggest that decolonization might be a passing trend that would not lead to significant changes in curricula or practices. They caution against getting swept up in the hype and instead emphasize the importance of engaging students in meaningful discussions about the challenges faced by universities. The focus, they reasoned, should be on fostering genuine understanding and transformation rather than following trends. Mackinlay and Barney (2011) have pointed out that "[d]ecolonization is a concept that takes on different meanings across different contexts" (p.55). Nonetheless, it can be understood roughly to encompass a project that resists Eurocentrism,

works to address the harm caused by colonial domination, and moves towards more socially just practices in the field of education.

In their paper entitled, *A Holistic Decolonial Lens for Library and Information Studies* published in the *Journal of Documentation*, Jimenez, Vannini, and Cox (2023) argue that librarianship, as an institution and profession, is deeply entrenched in coloniality as it prioritizes textual knowledge, thereby marginalizing and even eradicating indigenous oral traditions - a process described as epistemicide (Nyamnjoh, 2012). This textual focus aligns with a Eurocentric knowledge system that privileges Western scientific knowledge, often to the detriment of traditional knowledge in the global South (Crilly, 2019; Cox et al., 2020). The classification systems and collection practices in libraries further perpetuate these colonial biases, privileging the records and perspectives of colonial powers and excluding or misrepresenting indigenous knowledge (Olson & Schlegl, 2001).

As also noted by Muller et al. (2018), the call for decolonized higher education has intensified in recent years as evidenced from the student protest movements that, as Jansen (2017) noted, placed great emphasis on a decolonized university curriculum (Muller et al., 2018). The authors reasoned further that there is a need to think about how research practices can inform and be informed by the response so thoughts about thinking, about curriculum change, transformation, and decolonization should be informed by research practices that make such change possible (Muller et al., 2018). Engagement with decolonization must thus be twofold - first, in our experimentation with a different way of doing research, and second, in the theoretical sphere of anti-oppressive education where we locate our experiences of change and social justice (Muller et al., 2018). Sekiwu et al. (2022) submit that decolonizing LIS research in Africa involves rethinking and restructuring the theoretical, methodological, and practical approaches to better reflect and serve the continent's diverse cultures, languages, and knowledge systems. Reid (2018) observes that decolonization addresses the historical imbalances and power dynamics that have marginalized African knowledge systems.

In an attempt towards decolonization of LIS curriculum in Africa, the framework of Jansen (2017) is of prime relevance here. Jansen (2017) discusses both "soft" and "hard" perspectives on decolonization, which are crucial for determining the most effective way to decolonize the LIS curriculum in Africa. These perspectives are summarized as follows:

Soft perspectives

Decolonization as additive-inclusive knowledge

This viewpoint acknowledges the value of existing knowledge systems but calls for the inclusion of new knowledge in established curricula. While adding new

content is necessary, critics argue that this alone is not enough to fully achieve decolonization. Simply incorporating additional courses or texts may result in isolating the new material from mainstream academic disciplines (Foga, 2020).

Decolonization as decentering European knowledge

This approach critiques the dominance of European ideals, values, and knowledge in educational institutions, arguing that Europe remains central in shaping curriculum content. Advocates of this perspective suggest that Africa should replace Europe at the core of the curriculum, without entirely excluding European contributions. Instead, African knowledge, values, and achievements should take precedence, reflecting the continent's central role in shaping historical, societal, and future understandings (Foga, 2020; Jansen, 2017).

Decolonization as critical engagement with established knowledge

This method encourages students to critically analyze knowledge by asking questions such as: "Where does this knowledge originate? Whose interests does it serve? What is included or excluded?" (Jansen, 2017). Rather than erasing uncomfortable aspects of the past, this approach promotes a transformative engagement with the curriculum, reshaping its meaning through critical reflection.

Decolonization as encounters with entangled knowledge

In this view, knowledge is not neatly divided into binaries like "us" versus "them" or "the West" versus "the Global South" (Foga, 2020). Instead, it reflects the interwoven nature of human existence. Scientific discoveries, for instance, are seen as products of both colonizer and colonized knowledge systems. No matter how much we try, our lives and knowledge are inevitably interconnected, which is mirrored in the curriculum.

Hard perspectives

Decolonization as the repatriation of occupied knowledge (and society)

This "hard" stance assigns significant influence to the curriculum in shaping both established knowledge and settler society (Foga, 2020). Proponents of this repatriation model are often engaged in efforts to restore control of land to Indigenous peoples. They criticize the additive-inclusive model, claiming that it "domesticates" decolonization by containing it within existing structures rather than achieving true liberation (Jansen, 2017).

Decolonization as the Africanization of knowledge

Unlike the “decentering” approach, which seeks to replace European dominance with African centrality, this “hard” Africanization perspective aims to completely displace Western knowledge, achievements, and ideals as the standard of human progress (Foga, 2020). Advocates, particularly pan-Africanists, view Africanizing the curriculum as a nationalist goal that rejects European imitation and asserts African identity. A truly decolonized curriculum, they argue, should focus exclusively on Africa, without reference to Europe or the West. Based on the Jansen (2017) framework above, which decolonization approach is best for Africa in the bid towards realignment of LIS curricula and ensuring social justice through scholarly communication? The next section addresses this question.

Decolonizing LIS curriculum through scholarly communication and ensuring social justice in Africa

Decolonizing the curriculum means creating spaces and resources for a dialogue among all members of the university on how to imagine and envision all cultures and knowledge systems in the curriculum, and with respect to what is being taught and how it frames the world (Keele University, 2018). The process often goes through curriculum alignment which is essential in LIS education to address the evolving needs of society and the information profession. Traditional LIS curricula often focus on technical skills and theoretical knowledge without adequately addressing the social and ethical responsibilities of information professionals (Mehra & Rioux, 2016). Realigning the curriculum in LIS education means going beyond the traditional focus on library skills like cataloging and managing collections. It involves reshaping educational programs to emphasize social justice values such as equity, access, diversity, and inclusion. This shift aims to prepare LIS professionals who are not only skilled in their craft but also mindful of the broader social issues affecting marginalized and underserved communities. In the African context, where unequal access to information is a significant challenge, this realignment is especially important. By aligning library services with social justice principles, fairer access to information can be achieved, leading to strengthening libraries as powerful drivers of social change. In fact, this realignment is very crucial for training information professionals who are not only skilled in managing information but also committed to promoting social justice and inclusivity in their work. The following approaches to achieving LIS curriculum realignment through scholarly communication to ensure social justice, which follows Jansen’s (2017) framework of decentering the curriculum, are discussed.

Integrating open access publishing in curricula as a means of achieving equitable access

Today, scholarly communication, which is the process in which research findings are created, evaluated, disseminated, and preserved (Okechukwu et al., 2024), has been identified one

of the avenues of achieving curriculum realignment and ensuring social justice. Scholarly communication being a fundamental aspect of academic life, serves as the primary means by which researchers share their findings, engage in dialogue with their peers, and contribute to the collective knowledge of their disciplines (Luzón & Pérez-Llantada, 2022). According to the authors, this process encompasses a wide range of activities, from the creation and dissemination of research to the preservation and access of scholarly works.

Going further, White and King (2020) noted that scholarly communication involves the creation, evaluation, dissemination, and preservation of academic research. The traditional model of scholarly communication is often associated with the publication of research articles in peer-reviewed journals (Lee & Yue, 2020). This model has long been the cornerstone of academic publishing, providing a platform for researchers to disseminate their work to a global audience while ensuring that the research meets the standards of rigor and validity through the peer review process. However, scholarly communication extends beyond journal articles to include books, conference papers, data sets, and other forms of research output that contribute to the advancement of knowledge (Okechukwu et al., 2024). The advent of digital technologies has had a profound impact on scholarly communication, transforming how research is created, shared, and accessed (Meyer & Schroeder, 2023). The authors further argued that the digitization of scholarly content has facilitated the rapid dissemination of research, enabling researchers to share their findings with a global audience almost instantly. Elliott et al. (2020) noted that digital platforms and tools, such as online journals, repositories, and social media, have expanded the reach of scholarly communication, allowing for greater collaboration and engagement among researchers, policymakers, and the public. More so, Arboledas-Lérida (2021) noted that metrics and impact assessment of scholarly communication are also evolving, with a growing emphasis on alternative metrics, or altmetrics, which measure the impact of research beyond traditional citation counts. In furtherance, Lyu and Costas (2020) indicated that altmetrics track the attention that research receives online, including mentions on social media, coverage in news outlets, and engagement on academic networking sites. The authors further noted these metrics provide a more comprehensive view of the reach and influence of research.

In the context of social justice, scholarly communication can help democratize knowledge by making research findings freely available through open access publishing models (See Figure 1).

- **Gold OA** – this form of Open Access makes the final published Version of Record permanently, freely available, immediately upon publication by the publisher, at the point of publication (i.e. the journal itself, not in a repository). Gold Open Access frequently requires payment of an article processing charge (APC), which may be paid by authors or subsidized by a third party such as a funding council – however, payment is not a necessary characteristic of Gold Open Access, it simply means that the article is free for readers to access from the journal itself under a Creative Commons license.
- **Green OA** – making a version of the manuscript freely available in a repository. An embargo period is usually set by the publisher, such as 6, 12 or even 24 months. No charges are paid.
- **Delayed Open Access** – refers to scholarly articles in subscription journals made available openly on the web directly through the publisher at the expiry of a set embargo period.
- **Hybrid** – a subscription journal which allows authors to make their papers Open Access. Typically a significantly higher price (relative to dedicated Gold OA journals), while others remain toll access.
- **Bronze OA** – articles marked as ‘Open Access’ without an explicitly stated Creative Commons license, and/or without charge of an APC to the author.
- **Gratis OA** – this access refers to the publisher optionally making a paper free to read at no charge to the author – usually for marketing and promotional activities. The Gratis Open Access may not be permanent. Copyright/licencing is still determined by traditional formats. This is not ‘true’ Open Access.
- **Libre OA** – this is a blanket term for ‘true’ Open Access; where the paper is made available under an open licence, allowing it to be shared and reused, depending on which licence is used.
- **Diamond OA** – this refers to the form of Gold Open Access in which there are no author fees (APC). Funding for the journal publishing operations comes from alternate sources, and is not charged to the authors.

Figure 1: Open Access Models. Source: IFIS Libguides <https://ifis.libguides.com/journal-publishing-guide/open-access-models>

Open access, particularly the Diamond model, provides an opportunity for researchers to communicate their findings publicly without having to pay article processing fees (Kodua-Ntim & Fombad, 2024). The benefits of open access include increased visibility and discoverability of research results, increased collaboration, and exchange of ideas, enhanced quality and efficiency of research, and increased global impact of research, education, and innovation (Kodua-Ntim & Fombad, 2024).

This ensures that all individuals, regardless of their institutional affiliation or economic status, can benefit from and contribute to the body of knowledge. Moreover, scholarly communication can amplify diverse voices and perspectives, promoting a more inclusive and representative scholarly discourse.

Several studies have noted that scholarly communication plays a vital role in the pursuit of social justice (Canfield et al., 2020; Roh et al., 2020). In the context of social justice, scholarly communication has the potential to highlight inequalities, give voice to marginalized communities, and advocate for systemic change (Polk & Diver, 2020). One of the primary ways in which scholarly communication promotes social justice is by increasing access to information (Mehra, 2021). Access to information is a fundamental human right, and scholarly communication can help bridge the gap between privileged and marginalized groups (Fatureoti, 2022). Traditionally, Logullo et al. (2024) noted that access to scholarly research has been limited by the high costs of journal subscriptions and other paywalls, which often restrict access to individuals and institutions with sufficient financial resources.

According to Ochieng and Gyasi (2021), the open access movement, which advocates for research to be freely available to the public without financial or legal barriers, has been a critical development in promoting social justice through scholarly communication. Knöchelmann (2021) noted that open access helps democratize knowledge, enabling a wider range of individuals to engage with and benefit from scholarly work. In addition to increasing access to information, open access also plays a key role in amplifying the voices of marginalized communities (Roh et al., 2020). The study by Vetter et al. (2022) explored the role of Research-Practice Partnerships (RPPs) in advancing equity and justice within educational research in the United States. Findings from Vetter et al. (2022) revealed that RPPs have grown significantly, fostering collaborations between researchers and practitioners to address educational challenges through shared efforts. The authors further emphasize the importance of reflecting on the strengths of these equity-oriented partnerships to sustain and enhance their impact on social justice in education. In addition, Raju (2018) discussed the evolution of the open access movement, emphasizing its philanthropic goal of sharing research for societal benefit and its potential to disrupt traditional publishing models. Their findings found that open access has expanded to include gold and diamond routes, with the latter gaining traction as libraries increasingly adopt the role of publishers. As observed by the authors, this shift, exemplified by the University of Cape Town Libraries' diamond open journal and monograph publishing service, highlights the social justice imperative of open access.

According to UNESCO (2024) the widespread endorsement and support for Diamond Open Access journals, repositories and platforms represent a paradigm shift towards dismantling the barriers hindering the access and distribution of publicly funded research. DOA is not just about broadening access; it's a commitment to bibliodiversity, affirming equitable access to scholarly publishing and research outputs regardless of geographical, financial or institutional constraints (UNESCO, 2024). Thus, emphasizing open access in low-resource areas helps to reduce the significant barriers researchers from the Global South face due to costly subscription fees and article processing charges (APCs) (Chan & Costa, 2020). DOA is preferred among other models in the context of teaching LIS students because it ensures that no fees are charged to authors or readers, making knowledge accessible to everyone, regardless of financial resources. This model supports inclusivity by allowing a diverse range of perspectives from researchers worldwide to be published without cost barriers, challenging the traditional Western-centric focus in scholarship. DOA also promotes ethical publishing practices, supporting community-driven initiatives and the democratization of knowledge. With DOA, LIS students can advocate for a more equitable, diverse, and just academic environment. Teaching LIS students about diamond open access empowers them to support equitable platforms, enhancing access to knowledge and promoting inclusivity. These platforms encourage diverse perspectives in global academia, challenging the traditional Western-centric focus in scholarship. By promoting Diamond Open Access, LIS programs also address the digital divide by ensuring that access to scholarly resources and research outputs is not limited by financial barriers or infrastructure constraints. This inclusivity helps bridge the gap between well-resourced and under-resourced institutions, enabling researchers from low-income areas to participate fully in the global academic community. Consequently, it supports a more balanced and diverse exchange of knowledge and ideas across different regions.

Inclusivity and the representation of diverse voices

Inclusivity in scholarly communication requires both access and the representation of diverse perspectives in knowledge creation and dissemination. Traditional publishing has often sidelined voices from less privileged regions, favoring research from wealthier nations, which limits global academic diversity (Subramaniam, 2019). Integrating inclusivity in LIS curricula equips students to recognize and address these imbalances, such as by analyzing trends that underrepresent non-Western scholars and exploring how open access, particularly diamond open access, can elevate indigenous knowledge systems without financial barriers (Fuchs & Sandoval, 2013). Through learning about alternative scholarly communication models, students are prepared to advocate for platforms that foster wider representation and challenge exclusionary editorial practices (Hudson-Ward, 2020). This approach supports social justice objectives in LIS by democratizing knowledge production and amplifying marginalized voices.

Ensuring the recognition of indigenous knowledge systems in research methodology

The late South African Minister of Health, Mantho Tshabalala-Msimang, commenting on the need to study indigenous knowledge systems said:

the study of indigenous knowledge was “an opportunity to reclaim Africa’s scientific and socio-cultural heritage, which was stigmatized and discredited as primitive rituals and witchcraft by colonialism and apartheid” (Hasslberger, 2010)

Two of the major values of research to society are that it is the means by which society validates (or confirms) past and current knowledge; and research is also a means by which new knowledge is created by searching and discovering the unknown. Most often, African universities are looked upon as ivory towers or Western enclaves which serve as Trojan horses for perpetuating Western domination of knowledge systems by dancing to the Western research agenda. As an experiential knowledge system whose application has been tested since the beginning of time, the various facets of IKS should be validated through research as a means of integrating them into LIS curricula. Currently, only three research paradigms namely - positivist, interpretive and critical theory, which are Eurocentric in origin are recognized in scholarly publishing (Kivunja & Kuyini, 2017; Rehman & Alharthi, 2016). A fourth, Indigenous Paradigm, which would value indigenous systems, values and methodologies, should be integrated into LIS curricula and recognized by the Global North. Its principles would be based on epistemological pluralis, relational ontology, decolonization and empowerment, knowledge as intergenerational and community-based. The specific IKS courses that should be incorporated include but not limited to the following: oral traditions and narratives, community participation and collaboration, respect for indigenous epistemologies, traditional ecological knowledge, language and cultural sensitivity, intergenerational knowledge transfer, and indigenous methodologies.

Empowering LIS Students to engage with equitable knowledge systems

Incorporating themes of equity and inclusivity into LIS programs equips graduates to critically address disparities in knowledge organization and access. Students gain essential skills in open access usage, ethical metadata practices, and advocacy for inclusive policies, fostering social empowerment and community building (Mehra & Rioux, 2021). This curriculum shift prepares future librarians to advance social justice through local knowledge preservation, community-driven research, and responsive library services, ultimately shaping a more inclusive global information landscape. Addressing the digital divide is integral to this effort, as these programs emphasize the importance of providing equitable access to digital resources and technology.

By teaching students to recognize and bridge gaps in digital literacy and infrastructure, LIS graduates can ensure that marginalized communities are not left behind in the digital age. This approach helps reduce inequalities and promotes inclusive participation in the global information society.

Conclusion

It is crucial to remember that advancing the decolonization of LIS curriculum by aligning it with principles of social justice is an ongoing process. It requires constant reflection, engagement with diverse perspectives, and a commitment to challenging dominant narratives in LIS. In this essay, Jansen's (2017) approach of "decolonization as decentering European knowledge" was selected as the most feasible framework because it addresses the historical dominance of European knowledge while ensuring African knowledge takes precedence. This balanced approach fosters an inclusive curriculum, acknowledging valuable European contributions without marginalizing African perspectives. It promotes ownership and pride among African students and educators, validating and celebrating African intellectual traditions, which can enhance engagement and motivation. In addition, the framework aligns with broader decolonization goals by challenging colonial structures and ideologies, contributing to a more equitable society. It avoids the pitfalls of other frameworks, such as the additive-inclusive model, which may not fully challenge Eurocentric paradigms, or the Africanization model, which could isolate African knowledge from global discourse.

Several approaches have been discussed in line with decolonization as decentering European knowledge. By integrating the approaches towards decolonising LIS curriculum, universities in Africa would be on the path towards equipping their graduates with the knowledge and skills necessary to contribute to a more just and equitable information landscape. This transformation also entails embedding practices that focus on social justice, such as open access publishing, which broadens access to knowledge by removing economic barriers. By doing so, LIS programs can develop professionals who are not only skilled in managing information but are also dedicated to ethical practices that promote inclusivity, equity, and community engagement. To achieve this vision, LIS practitioners, educators, policymakers would need to work together to prioritize reforms that emphasize social responsibility alongside technical expertise. Initiatives like open access, particularly Diamond OA, are crucial in supporting diverse perspectives, enhancing accessibility, and addressing information inequities. In the final analysis, a decolonized, socially conscious LIS curriculum will prepare professionals to effect positive change in African societies.

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Data-driven Decolonization: Integrating Social Justice Principles in LIS for Knowledge Production and Processing in Africa

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Abstract

This essay conceptualizes the integration of data librarianship and decolonial approaches in Library and Information Science (LIS) education in Africa, addressing the challenges of algorithmic colonization in knowledge production and dissemination. Through analysis of current literature and theoretical perspectives, significant gaps in existing LIS curricula were identified, particularly in addressing data colonialism and indigenous knowledge systems. Drawing on critical pedagogy and decolonial theory, we propose the Algorithmic Decolonization of Curriculum Framework (ADeC Framework) as a comprehensive approach to transforming LIS education. The framework consists of four key components: Critical Data Literacy, Indigenous Knowledge Systems Integration, Ethical Algorithmic Practices, and Community-Centered Approaches. The ADeC Framework provides structured guidance for curriculum reform, faculty development, and community engagement, emphasizing the importance of balancing technical competencies with critical consciousness of colonial legacies in information systems. The essay outlines specific implementation strategies, including curriculum audit processes, faculty training programs, community partnership development, and monitoring mechanisms. It suggests that successful integration of data-driven decolonial approaches requires sustained institutional commitment, adequate resources, and meaningful collaboration with local communities. This essay contributes to ongoing discussions about decolonization in Africa, particularly, LIS education and offers practical solutions for promoting social justice through data practices in African contexts.

Keywords: data librarianship, decolonization, LIS education, algorithmic justice, indigenous knowledge systems—Africa, social justice

Introduction

The field of Library and Information Science (LIS) stands at a critical juncture as it

grapples with the challenges and opportunities presented by the data revolution. In Africa, where the impacts of colonialism continue to shape knowledge production and dissemination, the integration of data librarianship into LIS curricula offers a unique opportunity to advance social justice and decolonization efforts. Traditional Western-centric epistemologies have long dominated not only academic discourse but also data processing and algorithmic development (Birhane, 2020; Lambrechts, Sinha, & Mosoetsa, 2022; Milan & Treré, 2019). This “algorithmic colonization” perpetuates existing inequalities and biases in knowledge production and dissemination. Libraries, as trusted institutions providing unbiased information, are uniquely positioned to challenge these disparities. The concept of algorithmic colonization extends beyond mere bias in data systems. It encompasses the broader socio-technical structures that reinforce power imbalances and perpetuate the marginalization of non-Western knowledge systems (Couldry & Mejias, 2019). This form of colonization operates through the extraction, processing, and commercialization of data, often without regard for local contexts or indigenous knowledge frameworks (Thatcher, O’Sullivan, & Mahmoudi, 2016).

In the African context, the impacts of algorithmic colonization are particularly pronounced. Kwet (2019) argues that the digital ecosystem in Africa is largely controlled by Western tech giants, leading to a form of “digital colonialism” that undermines local innovation and data sovereignty. This dominance extends to academic databases, citation indices, and research evaluation metrics, which often undervalue or exclude African scholarship (Grant, 2020; Ngeh, 2021; Openjuru et al., 2015). Libraries and information centers in Africa face the dual challenge of navigating this digitally colonized landscape while also working to preserve and promote local knowledge systems. African libraries must balance the adoption of global digital technologies with the need to center African epistemologies and ways of knowing (Ndasauka, 2024; Moahi, 2012).

The decolonization movement in academia

The decolonization movement seeks to redress imbalances by questioning traditional Western-centric epistemologies (Au, 2023). This movement advocates for the inclusion of diverse perspectives and knowledge systems, particularly those that have been historically marginalized or excluded from academic discourse. Decolonization in academia goes beyond simply diversifying content or increasing representation. It involves a fundamental reimagining of knowledge production, validation, and dissemination processes (Bhambra, Gebrial, & Nişancıoğlu, 2020). In the context of LIS education, decolonization calls for a critical examination of cataloging systems, metadata standards, and information organization principles that have historically privileged Western knowledge structures (Dudley, 2017).

The movement also emphasizes the importance of “cognitive justice,” a concept introduced by Visvanathan (2009) that argues for the recognition and equal treatment of diverse knowledge systems. This is particularly relevant in the African context, where indigenous knowledge systems have often been marginalized or appropriated by Western academic traditions (Mkhize & Ndimande-Hlongwa, 2014). In LIS education, the decolonization movement has sparked debates about the nature of information literacy and the role of libraries in perpetuating or challenging colonial legacies. Scholars like Crilly (2019) have called for a “critical library instruction” approach that encourages students to question the power structures embedded in information systems and practices. The intersection of decolonization and data science presents both challenges and opportunities. While big data and algorithmic systems have the potential to perpetuate colonial power structures, they also offer tools for countering these narratives. Scholars like Kukutai and Taylor (2016) have explored the concept of “indigenous data sovereignty,” which asserts the right of indigenous peoples to control the collection, ownership, and application of data about their communities.

As LIS education evolves to incorporate data librarianship, it must do so with a decolonial lens. This means not only teaching technical skills but also fostering critical consciousness about the political and ethical implications of data practices. It requires a commitment to developing curricula that center African perspectives, promotes local innovation, and equip students to challenge the digital and algorithmic manifestations of colonial power.

Research problem and aim

Despite the potential of data librarianship to promote social justice and improve scholarly communication in Africa, there remains a significant gap in the integration of these competencies within LIS education. Many LIS curricula lack a comprehensive focus on data management and algorithmic decolonization, perpetuating existing disparities and limiting the capacity of LIS professionals to engage in transformative practices.

The gap in data librarianship education in Africa stems from several interconnected issues. One key factor is the curriculum lag, where LIS programs struggle to keep up with evolving technological advancements and the changing nature of information work. Many programs remain focused on traditional librarianship skills, with limited attention to emerging areas like data management and digital curation, crucial for the Fourth Industrial Revolution (Livi & Salubi, 2024; Ocholla & Ocholla, 2020; Okeji & Mayowa-Adebara, 2020). Resource constraints further exacerbate this, as many African institutions lack the necessary ICT infrastructure, access to current literature, and qualified faculty with expertise in data science and management, limiting students’ exposure to practical data tools (Abdelfattah et al., 2023; Majanja, 2020). Additionally, Western epistemologies dominate LIS curricula, often sidelining African knowledge systems, which restricts students from

navigating local contexts and addressing data colonialism (Carroll et al., 2013; Lor, 2015).

Moreover, LIS programs in Africa often lack sufficient focus on critical data literacy and the ethical dimensions of data practices. While some programs incorporate data management, many still emphasize technical skills over understanding the social and political implications of data structures (Crawford & Paglen, 2021; Engelmann & Papakyriakopoulos, 2023). This gap extends to data ethics and governance, where issues such as data sovereignty and algorithmic bias, crucial in the African context, receive insufficient coverage (Zimmer, 2018). Additionally, the growing demand for research data management, driven by open science and data-intensive research, highlights the need for better preparation in this area. Chiware and Mathe (2015) found that LIS curricula often fail to equip students with the necessary skills to support researchers in managing, sharing, and preserving research data. This gap limits the ability of African scholarship to increase its visibility and impact on the global stage.

This multifaceted problem not only affects the quality of LIS education but also has broader implications for knowledge production and dissemination in Africa. By failing to equip LIS professionals with critical data skills and decolonial perspectives, we risk perpetuating systems of knowledge inequality and limiting Africa's participation in the global data economy. Addressing these gaps requires a comprehensive reimagining of LIS education in Africa, one that places data librarianship and critical data studies at the center of the curriculum while also prioritizing local knowledge systems and community needs. This essay aims to contribute to this reimagining by proposing a framework for integrating data-driven approaches and decolonial perspectives into LIS education.

Literature review and theoretical framework

The intersection of data librarianship, decolonization, and LIS education in Africa is rather complex. Recent scholarship has highlighted the ways in which data practices and algorithmic systems perpetuate colonial power structures. Birhane (2020) argues that algorithmic systems often embed and reproduce Western epistemologies, while Milan and Treré (2019) discuss the concept of "data colonialism" as a framework for understanding how data extraction and processing practices impact Global South communities.

Increasingly, scholarly discourse has focused on the intersection of data librarianship, social justice, and decolonization. Heeks and Renken (2018) highlight the potential of data librarianship to address social inequalities, emphasizing its role in informing inclusive policies and practices. They argue that by equipping LIS professionals with data management and analysis skills, it is possible to develop systems that reflect diverse perspectives and needs. This perspective is particularly relevant in Africa, where the legacy of colonialism continues to shape how information is controlled and

disseminated. Similarly, Czerniewicz (2018) advocates for decolonizing educational practices by integrating indigenous and diverse epistemologies into curricula. This call for decolonization extends to LIS education, where there is growing recognition of the need to challenge dominant paradigms that prioritize Western knowledge systems and marginalize others. In the context of data librarianship, this includes not only teaching technical skills but also fostering a critical awareness of power dynamics in data systems and exploring ways to reconfigure these systems to promote social justice.

The concept of “data colonialism” has emerged as a critical framework for understanding the power dynamics inherent in contemporary data practices. Couldry and Mejias (2019) argue that data colonialism represents a new stage of capitalist development, characterized by the appropriation of human life through data extraction. This process mirrors historical colonialism through its extractive logic and its reshaping of social relations in the interests of capital. In Africa, data colonialism has particularly significant implications. Kwet (2019) introduces the concept of “digital colonialism” to describe the dominance of Western tech companies in Africa’s digital ecosystem, which perpetuates economic domination and cultural imperialism. Data colonialism takes on several distinct forms, each of which has significant implications for the region’s digital landscape and its relationship with the global data economy. One key manifestation is through data extraction. As Arora (2019) highlights, large-scale data collection efforts across the continent often benefit foreign companies and researchers more than the local communities that provide the data. This process, which Arora terms “data extractivism,” raises critical questions about data ownership and privacy, particularly in contexts where data protection laws are weak or non-existent. The imbalance in the benefits derived from such data collection highlights the exploitative nature of these practices, reflecting broader patterns of historical resource extraction in colonial contexts.

Another pressing issue in the African context is algorithmic bias. The datasets used to train algorithms in Africa often fail to adequately represent the continent’s diverse populations. Buolamwini and Gebru (2018) provide compelling evidence of significant disparities in the accuracy of facial recognition systems across different demographic groups, with darker-skinned women being the most misclassified group. These biases can have serious implications when such systems are deployed in critical areas like law enforcement, healthcare, and finance, where inaccurate results can lead to harmful outcomes. The underrepresentation of African populations in these datasets perpetuates a cycle of marginalization and exclusion in digital spaces.

Theoretical framework

The theoretical underpinnings of this research are grounded in two complementary approaches: critical pedagogy and decolonial theory. These frameworks provide a robust

foundation for examining the role of data librarianship in advancing social justice and decolonization within LIS education in Africa.

Critical pedagogy

Critical pedagogy, as articulated by Paulo Freire (1970) in his seminal work “Pedagogy of the Oppressed,” provides a framework for understanding education as a tool for empowerment and social change. In the context of LIS education, critical pedagogy offers valuable insights into how data librarianship can challenge existing power structures and promote social justice. Key principles of critical pedagogy, as articulated by Freire (1970), are highly relevant to this study. Conscientization, the process of developing critical consciousness, emphasizes understanding the social, political, and economic contradictions within society. In the context of data librarianship, this principle translates into fostering an awareness of the power dynamics embedded in data structures and algorithmic systems, highlighting the need to critically assess these frameworks (Gorham, 2020). Praxis, another core tenet of Freire’s philosophy, involves the integration of reflection and action. This principle suggests that LIS education should not only focus on technical skills but also encourage students to critically reflect on and actively challenge oppressive data practices (Tewell, 2015).

Freire also advocates for dialogue as an essential educational practice, where knowledge is co-created through interaction between teachers and students. This concept aligns with the need for LIS education to engage with local communities and incorporate diverse knowledge systems in data practices (Lor & Britz, 2010). Additionally, Freire’s problem-posing education contrasts with the traditional “banking” model of education, where students passively receive knowledge. Instead, the problem-posing approach encourages critical thinking, which is particularly important in data librarianship. It enables students to navigate complex ethical and social issues related to data management and use (Higgins & Gregory, 2013; Tewell, 2020). The application of critical pedagogy to LIS education has been explored by scholars such as Elmborg (2006) and Cooke (2017), who argue for a critical information literacy that goes beyond teaching skills to address the social and political dimensions of information. In the context of data librarianship, critical pedagogy can inform approaches that challenge the neutrality of data and encourage students to question who benefits from current data practices (Agosto, 2018).

Decolonial theory

Decolonial theory provides a framework for understanding and challenging the ongoing impacts of colonialism on knowledge production and dissemination. This theoretical approach is particularly relevant in the African context, where colonial legacies continue to shape academic practices and information systems. Fundamental concepts from decolonial theory provide a crucial framework for this research. One of these is the “coloniality of

knowledge,” introduced by Quijano (2007) and extended by Mignolo (2011), which refers to how Western epistemologies have been universalized and positioned as superior to other knowledge systems. In the context of LIS education, this concept highlights the need to move away from Western-centric approaches to data management and to recognize and integrate African knowledge systems (Oliphant, 2015). Another relevant idea is “epistemic delinking,” advocated by Mignolo (2011) as a means of breaking free from colonial modes of thinking. In data librarianship, this could involve developing classification systems and metadata standards that reflect African worldviews and linguistic diversity (Keet & Khumalo, 2017).

The principle of pluriversality, proposed by Grosfoguel (2017), emphasizes the coexistence of multiple ways of knowing, rejecting the notion of a single universal epistemology. This concept can guide the development of data practices that incorporate and respect diverse epistemologies (Arthur et al., 2023). Lastly, Mignolo and Vazquez’s (2013) concept of “decolonial aesthetics” challenges the dominance of Western-centric aesthetics and promotes reclaiming marginalized forms of sensing and perceiving. In the realm of data visualization and representation, this approach encourages alternative ways of presenting information that move beyond Western visual norms (D’Ignazio & Klein, 2020). The application of decolonial theory to LIS has been explored by scholars who examine how decolonial approaches can inform critical cataloging practices (Anderson, Boss, & Bucy, 2023; Snow & Dunbar, 2022). In the context of data librarianship, decolonial theory can provide a framework for developing data management practices that challenge digital colonialism and promote data sovereignty for African communities (Pollock, 2019).

By integrating critical pedagogy and decolonial theory, this research aims to develop a nuanced understanding of how data librarianship education in Africa can be transformed to promote social justice and challenge colonial legacies in knowledge production and dissemination. This theoretical framework provides a foundation for reimagining LIS curricula in ways that center African perspectives, promote critical engagement with data practices, and equip future professionals to navigate the complex ethical landscape of the data-driven world.

The Algorithmic Decolonization of Curriculum Framework (ADeC Framework)

The development and implementation of the Algorithmic Decolonization of Curriculum Framework (ADeC Framework) is a pivotal proposal of this essay, aimed at guiding the realignment of LIS curricula to include data-driven approaches that support equitable knowledge production, processing, and dissemination.

Framework overview

The ADeC Framework is a comprehensive approach to integrating data librarianship into LIS curricula while prioritizing decolonization and social justice. The framework consists of four key components: Critical Data Literacy; Indigenous Knowledge Systems Integration; Ethical Algorithmic Practices; and Community-Centered Approaches. This framework is comprehensive in scope, addressing the integration of data librarianship into LIS curricula while simultaneously centering decolonization and social justice principles. Drawing inspiration from existing models such as Indigenous Data Sovereignty frameworks (Kukutai & Taylor, 2016) and Critical Data Studies (Iliadis & Russo, 2016), the ADeC Framework seeks to redefine the pedagogical approaches in LIS education in Africa to ensure inclusivity, representation, and ethical practices.

Critical data literacy

Critical data literacy is a foundational element of the Algorithmic Decolonization of Curriculum Framework (ADeC Framework), aiming to bridge technical skills with a deeper understanding of the ethical and societal implications of data use. Technical expertise alone is insufficient without a critical consciousness of how data practices are embedded in broader social, political, and cultural contexts. Thus, the ADeC Framework prioritizes an integrated approach that fosters not only the ability to work with data but also the capacity to analyze and question the inherent biases, power structures, and historical legacies that shape data systems. At the core of critical data literacy is the cultivation of technical competencies. These include essential skills such as data management, curation, and statistical literacy. In addition to these technical skills, the ADeC Framework emphasizes the development of critical analysis skills that allow students to engage with the ethical dimensions of data.

One of the key aspects of critical data literacy is the ability to recognize and interrogate data bias and power structures. Data is not neutral; it is often shaped by the agendas, perspectives, and interests of those who create, collect, and analyze it (D'Ignazio & Klein, 2020). This awareness extends to an understanding of algorithmic discrimination, where biases embedded in data can lead to biased outcomes in machine learning and algorithmic decision-making (Noble, 2018). Another component of critical data literacy is the recognition of data colonialism: the ways in which data extraction and usage mirror historical patterns of colonial domination and exploitation (Couldry & Mejias, 2019). By framing data practices within the broader context of global inequalities, students learn to identify ways in which data can be used to marginalize and exploit communities, particularly in the Global South. This component of the ADeC Framework argues for the questioning of underlying assumptions of data practices that may appear neutral but are often embedded in neo-colonial power structures. Understanding these dynamics is key to fostering an ethical approach to data use that prioritizes the rights, autonomy, and dignity of marginalized populations.

Indigenous knowledge systems integration

This component of the ADeC Framework aims at addressing the historical marginalization of African epistemologies and knowledge systems specifically in data management and more broadly, within Library and Information Science (LIS). Traditional Western approaches to data practices and knowledge organization often exclude or inadequately represent indigenous perspectives, resulting in the continued erasure of cultural knowledge and practices. By integrating African knowledge systems into data practices, the ADeC Framework seeks to redress this imbalance, ensuring that indigenous ways of knowing and organizing information are preserved, respected, and actively incorporated into modern data infrastructures.

A key focus of this component is on knowledge organization, which emphasizes the inclusion of indigenous classification systems in data practices. Traditional methods of organizing knowledge in African societies are often based on relational, community-based, and context-sensitive frameworks that differ significantly from Western systems (Agyemang, Ngulube & Dube, 2019). These indigenous methods are deeply tied to local cultural values, oral traditions, and spiritual practices. The ADeC Framework advocates for the integration of these indigenous classification systems into modern data infrastructures to ensure that they reflect the knowledge hierarchies and relationships that are meaningful within the communities that produce them. Additionally, the framework promotes the development of local language metadata frameworks, allowing data to be categorized and accessed using the languages and terms that are relevant to indigenous communities. This ensures not only the preservation of linguistic diversity but also the accessibility of data to local populations.

Another critical aspect of knowledge organization is the importance of cultural heritage preservation protocols. African societies possess vast repositories of cultural heritage, including oral histories, traditional arts, agricultural knowledge, and medicinal practices. The ADeC Framework argues for the establishment of protocols that prioritize the ethical documentation, preservation, and sharing of this knowledge in ways that align with the values and consent of the communities involved. This includes respecting cultural sensitivities around the use and dissemination of certain forms of knowledge, ensuring that indigenous communities have a voice over how their knowledge is used and shared.

Ethical algorithmic practices

Ethical algorithmic practice is the third construct of the ADeC Framework, underscoring the necessity of embedding ethical considerations into the design, implementation, and evaluation of algorithms in Library and Information Science (LIS). One of the foremost aspects of ethical algorithmic practices is the concept of algorithmic justice. This principle emphasizes the importance of ensuring fair representation in the datasets

used to train algorithms (Buolamwini & Gebru, 2018). The ADeC Framework advocates for rigorous bias detection and mitigation strategies, encouraging LIS professionals to critically assess the data they use and the algorithms they deploy. This includes actively seeking diverse and representative datasets that reflect the communities served, as well as employing techniques that identify and reduce bias in algorithmic outputs. By prioritizing algorithmic justice, the framework aims to ensure that all individuals, regardless of their background, are treated equitably in data-driven systems.

In addition to fair representation, ethical algorithmic practices must include transparency and accountability measures. The ADeC Framework emphasizes the need for clear documentation of algorithms, including the methodologies used in their development, the sources of training data, and the criteria for decision-making processes. The sub-component of the framework also highlights the significance of contextual implementation in ethical algorithmic practices. Algorithms do not operate in a vacuum; they are situated within specific cultural, social, and political contexts that can significantly impact their effectiveness and fairness (Shankar et al., 2017).

Community-centered approaches

At the heart of community-centered approaches is the concept of participatory design. This involves collaborating with community members in the creation of data projects, allowing them to play an active role in shaping the tools, methodologies, and outcomes that directly affect their lives (Smith, 2021). Participatory design emphasizes the importance of local knowledge and expertise, recognizing that community members possess valuable insights into their own needs and challenges. This collaborative approach fosters a sense of ownership among community members, leading to greater investment in the success and sustainability of data initiatives.

Integrating local knowledge into data practices is another crucial aspect of this component. Local knowledge encompasses the lived experiences, cultural traditions, and historical contexts of community members, providing essential insights that can inform data initiatives. By recognizing and valuing this knowledge, data systems are created that are not only technically sound but also culturally sensitive and contextually relevant. This involves training information professionals to appreciate and incorporate local knowledge in their work, ensuring that data practices are informed by a deep understanding of the communities they aim to serve.

ADeC Framework implementation strategies

The successful implementation of the Algorithmic Decolonization of Curriculum Framework (ADeC Framework) requires a multi-faceted approach that involves a

comprehensive strategy. This strategy encompasses various elements, including curriculum audit and revision, faculty development, community partnerships, and continuous monitoring and evaluation. Each of these components plays a critical role in ensuring that the principles of the ADeC Framework are effectively integrated into Library and Information Science (LIS) education and practice on the basis of local needs.

Curriculum audit and revision

The first step in implementing the ADeC Framework is conducting a curriculum audit and revision. This process is essential for identifying and addressing any Western-centric biases present in existing LIS curricula. A thorough curriculum audit involves a systematic review of course materials, instructional methods, and learning outcomes to evaluate their alignment with the principles of decolonization and social justice. Content analysis is a crucial component of the audit process. It entails the systematic review of course materials to uncover any epistemological assumptions that prioritize Western knowledge systems over indigenous and local knowledge systems. This analysis enables educators to identify gaps in representation and inclusion, ensuring that diverse perspectives are integrated into the curriculum.

Once the audit is complete, it is important to identify integration opportunities. This involves mapping critical data literacy components within the existing curriculum and identifying cross-cutting themes that can enhance the learning experience. Educators can develop new course modules that focus on indigenous knowledge systems, ethical algorithmic practices, and community-centered approaches, enriching the overall educational framework and promoting inclusivity. The implementation of the curriculum audit and revision should also involve the establishment of assessment methods that reflect the values of decolonization. This may include developing decolonial evaluation criteria that assess student performance through a lens of social justice and inclusivity. Feedback mechanisms should be established to continuously gather insights from the community, students and faculty, enabling ongoing curriculum refinement.

Faculty development

Building faculty capacity is another critical aspect of implementing the ADeC Framework. Faculty development initiatives aim to equip educators with the knowledge, skills, and pedagogical strategies necessary to effectively teach and promote the principles outlined in the framework. Training Programs are essential for providing faculty members with a deeper understanding of decolonial pedagogies and their application in LIS education. Workshops focused on decolonial pedagogies can help educators explore alternative teaching methods that center indigenous knowledge and community engagement. Additionally, faculty members should have opportunities to pursue data management certification and training in indigenous knowledge systems, enhancing their technical competencies and cultural awareness.

The establishment of collaborative networks can further strengthen faculty development efforts. By fostering partnerships with knowledge keepers, community experts, and other educational institutions, faculty members can share resources, insights, and best practices. These collaborative networks can also facilitate inter-institutional collaboration, enabling faculty to engage in joint research projects and community outreach initiatives. Providing research support is equally important in empowering faculty to engage with the principles of the ADeC Framework. This includes offering resources on decolonial research methodologies, funding opportunities for community-centered research, and support for publication in relevant academic journals. Encouraging faculty participation in conferences focused on decolonization and social justice in LIS can further enhance their professional development.

Community partnerships

Partnership development begins with stakeholder identification, where LIS educators and professionals work to identify key community members, organizations, and leaders who can contribute to the development and implementation of data initiatives. Building strong relationships with these stakeholders is crucial for fostering trust and mutual understanding. Establishing formal agreements, such as memoranda of understanding, can further solidify these partnerships and outline the roles and responsibilities of each party involved. Also, creating learning opportunities through community-based projects is an effective way to engage students and faculty with local communities. These projects can take various forms, including field experiences that allow students to apply their skills in real-world settings, and internship programs that place students in community organizations. These experiential learning opportunities not only enhance student learning but also strengthen the connections between LIS programs and local communities.

Facilitating resource sharing is another important aspect of community partnerships. This involves establishing knowledge exchange programs that promote collaboration and learning between LIS educators and community members. Additionally, providing technical infrastructure support, such as access to data management tools and software, can enhance the capacity of community organizations to engage in data initiatives. Capacity building initiatives, aimed at empowering community members with data literacy skills, are also crucial for ensuring that partnerships are sustainable.

Monitoring and evaluation

Regular assessment and evaluation are vital for ensuring the effectiveness of the ADeC Framework and its implementation within LIS education and practice. A robust monitoring and evaluation strategy allows educators and stakeholders to assess progress, identify challenges, and make informed decisions for continuous

improvement. Establishing performance metrics is the first step in developing an effective monitoring and evaluation framework. Metrics should include student learning outcomes, community impact indicators, and measures of program effectiveness. These metrics provide a quantifiable basis for assessing the success of curriculum changes, faculty development efforts, and community partnerships. Implementing feedback mechanisms is also crucial for gathering insights from various stakeholders. Conducting stakeholder surveys, community consultations, and student assessments allows for the collection of qualitative and quantitative data that informs decision-making processes. This feedback can reveal areas for improvement and highlight successful practices that can be replicated. To foster a culture of continuous improvement, the ADeC Framework argues for the establishment of regular review cycles. These cycles should involve ongoing reflection and adaptation of strategies based on the results of monitoring and evaluation activities. This iterative process allows educators and community partners to remain responsive to the evolving needs of the communities they serve.

Conclusion and recommendations

This essay has demonstrated that the integration of data librarianship with decolonial approaches in Library and Information Science (LIS) education represents a critical opportunity to address historical inequities in knowledge production and dissemination in Africa. The proposed Algorithmic Decolonization of Curriculum Framework (ADeC Framework) offers a structured approach to transforming LIS education by combining technical data competencies with a critical consciousness of colonial legacies in information systems. The persistent influence of Western epistemologies in data practices and algorithmic systems continues to marginalize African knowledge systems and perpetuate digital colonialism. The ADeC Framework, through its four key components—Critical Data Literacy, Indigenous Knowledge Systems Integration, Ethical Algorithmic Practices, and Community-Centered Approaches—provides a comprehensive foundation for addressing these challenges. The framework's emphasis on participatory design and local knowledge integration ensures that data practices remain relevant and responsive to community needs while challenging colonial power structures in knowledge production.

Several recommendations are proposed for LIS educators, institutions, professionals, and policymakers. For educators and institutions, curriculum reform is essential, requiring audits to address Western-centric biases and the integration of indigenous knowledge systems into core coursework. Practical training modules in data management should incorporate decolonial perspectives, and assessment methods should reflect community impact. Faculty development should include regular training in decolonial pedagogies, mentorship programs for early-career educators, and support for research initiatives that advance decolonial practices. International collaborations with institutions

that share similar goals should also be fostered. In professional practice, community engagement is critical, with a focus on establishing partnerships with local communities, developing collaborative data projects, and supporting indigenous data sovereignty. For policymakers, developing a regulatory framework that protects indigenous knowledge in digital environments is vital. This includes guidelines for ethical data use, frameworks for community consultation, and policies that promote African data sovereignty. Resource allocation must increase funding for decolonial initiatives, support infrastructure development, and invest in research and community-based data projects.

The transformation of LIS education through data-driven decolonization represents a crucial step toward more equitable knowledge production and dissemination in Africa. By implementing these recommendations, LIS educators and professionals can contribute to dismantling colonial structures in information services and knowledge systems while promoting social justice and community empowerment. The success of these efforts will require sustained commitment, adequate resources, and meaningful collaboration between institutions, communities, and stakeholders at all levels.

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Propelling towards global realignment of LIS curricula through scholarly communication at the University of Botswana

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Abstract

The issue of curriculum is considered fundamental in knowledge, skills and competencies acquisition. The trend and emerging development in the world of knowledge and information lend credence to the postulation that LIS programme in any institution of learning should never be static and lethargic, but vibrant and dynamic. The vibrancy of a programme can be guaranteed when the operators of the programmes refrain from operating in silos but adhere to research publications and other scholarly writings in the design of their curricula. The purpose of this essay was to examine the drive towards global realignment of LIS curricula through scholarly communication at the University of Botswana (UB). With a setback suffered when one of its high flying products was refused admission for higher degree programme in a UK university, the Department of Library and Information Studies (DLIS) needed no further evidence of the shortfall of its curricula. DLIS subscribes to scholarly communication turning the tide. Through literature review, the essay established the advocacy for global realignment of curricula generally in the 21st century. As a dynamic programme the general clamour for upgrading and strengthening of LIS curricula in line with the demand of a fast-changing world was established. The essay discussed measures including comparability matrix setting the tone for global realignment of LIS curricula at UB. Other strategies mentioned include consultation with Chartered Institute of Library and Information Professionals, iSchools, etc. and engagement of international scholars prior to the five-yearly review of its programmes. Some recommendations are also offered.

Keywords: comparability matrix, scholarly communication, LIS curricula, information technology, continuing professional development

Introduction

The issue of curriculum is fundamental in education, knowledge and skills acquisition and it has attracted the attention of numerous pundits. Examining the concept of curriculum,

Wyse and Manyukhina (2024) refer to it as the planned activities and experiences that education systems organise for students to help them achieve learning goals that are usually specified at national, school, and classroom levels. Marope (2017) sees curriculum as active and beyond a particular generation when she defines it as a dynamic and transformative articulation of collective expectations of the purpose, quality, and relevance of education and learning to holistic, inclusive, just, peaceful, and sustainable development, and to the well-being and fulfillment of current and future generations. Kabita and Ji (2017) believe that curriculum should meet the needs of the individual citizens and the nation in their description of it as the vehicle through which a country empowers its citizens with the necessary knowledge, skills, attitudes, and values that enable them to be socially and economically engaged and empowered, for personal and national development. Taking it beyond national level to a global dimension, Stabback (2016) in a discourse titled *What Makes a Quality Curriculum? Current and Critical Issues in Curriculum and Learning*, perceives curriculum as representing a conscious and systematic selection of knowledge, skills and values: a selection that shapes the way teaching, learning and assessment processes are organized by addressing questions such as what, why, when and how students should learn. In a broader sense, Stabback claims the curriculum is also understood as a political and social agreement that reflects a society's common vision while taking into account local, national and global needs and expectations.

Writing on what should be the contents of the curriculum in the new age in a paper titled *21st Century Standards and Curriculum: Current Research and Practice*, Alismail and McGuir (2015) cited Paige (2009) asserting that adopting a 21st century curriculum should blend knowledge, thinking, innovation skills, media, information and communication technology (ICT) literacy, and real life experience in the context of core academic subjects. They argue that in order to achieve authentic learning that is demanded in the 21st century, students engage in the learning environment effectively and develop 21st century skills such as critical thinking, problem solving, and collaboration. Alismail and McGuir further cited Lombardi (2007) who insists that preparing curriculum to be connected with the real world can support student participation, their motivation and understanding for the academic subjects, as well as preparing them for adult life. In a review which he titled *Competences: Curriculum on the Move*, Hughes (2024) alludes to a UNESCO-International Bureau of Education (Kabita & Ji, 2017) paper that provides a hint on the efforts being made by a number of think tanks including the Organization for Economic Co-operation and Development (OECD), the 21st Century Skills Partnership, the Centre for Curriculum Redesign and the World Economic Forum, *on the design of curricula in the new age*. Hughes declares that these groups have been pointing to the need to design a more skills-based curriculum whereby classical disciplinary boundaries are broken down and what is developed in learners is a set of broader skills such as creativity, communication, collaboration and critical thinking.

Whilst skills development is not relegated to the background, acquisition of competences is also canvassed. Kabita & Ji (2017) defines competency as the ability to apply learning resources and outcomes (knowledge, skills, values, and attitudes) adequately in a defined context (education, work, personal, or professional development). In a similar vein, Hughes (2024) perceives competency as a unity of skill, knowledge and disposition, and listed seven competences that emerge from a Kabita & Ji (2017) study: namely: Lifelong learning (curiosity, critical thinking, ever-seeking); Self-agency (entrepreneurship, responsibility, self-worth, creativity, grit); Interacting with others (respect, open-mindedness, sensitivity, 'follow-ship', fellowship leadership); Interacting with the world (environmental custodianship, being global); Interacting with diverse tools and resources (using technology and available resources creatively, wisely, ethically and sustainably); Transdisciplinarity (thinking through and across episteme and systems, making connections, finding solutions to global problems) and Multi-literateness (intercultural literacy, health literacy, scientific literacy, data literacy, financial literacy, numeracy, general literacy).

UNESCO-IBE argues that a competency-based curriculum is a curriculum that emphasizes what learners are expected to do rather than mainly focusing on what they are expected to know. This is further elaborated when the organization double down stating that in principle, such a curriculum is learner-centred and adaptive to the changing needs of students, teachers, and society. The implication of this stance is that learners can acquire and apply the knowledge, skills, values, and attitudes to solve situations they encounter in everyday life. Gouëdard et al. (2020) also cited Wesselink et al. (2010) in their recognition of a global shift towards a competence-centred curriculum and affirms it implies an emphasis on the integration of knowledge, skills, and attitudes that enable a person to perform a certain task in ill-defined and unique environments. In the review of literature on curriculum reform, OECD alludes to the view of Mulder (2001) on competence development that a competence-centred curriculum aims to provide students with an integrated performance-oriented capability to reach specific achievements that would allow them to navigate through a world that is constantly changing and full of uncertainty.

In the light of the above context, it is evident that the world is indeed in times of great changes where the old order is crumbling rapidly and new systems of life and activities are emerging – a development that requires educators to prepare the students not only for the current but also for the future change. The trend and emerging development in the world of knowledge and information lend credence to the postulation that LIS programme in any institution of learning should never be static and lethargic, but vibrant and dynamic. Several authors have done studies on the curricula of LIS in various parts of the world. For instance, among others, Chu and Raju et al. (2022) produced IFLA guidelines for professional library and information science (LIS) education programmes. Matusiak, Stansbury, and

Barczyk, (2014) delved into educating a new generation of library and information science professionals in the United States and also alluded to what obtains in Europe. Ocholla and Bothma (2007) discussed the status, trends and challenges of library and information education and training in Eastern and Southern Africa. Akanwa and Okorie (2020) did an x-ray of the nature of LIS programme as practiced in Nigeria. In East Africa, Lutwama and Kigongo-Bukenya (2004) did a tracer study of the LIS graduates (1995-1999) working in Uganda. Aina and Moahi (1999) also carried out a tracer study of the Botswana Library School graduates. It becomes obvious from the various studies undertaken that LIS is a programme for the current and emerging global society in which its products will be germane. In this respect, with different levels of LIS programme on offer (including certificate, diploma, degree and higher degree levels), it is expected that on completion of their programme especially at degree and higher degree levels, the new professionals should be skilled and knowledgeable enough not only to be able to practice their profession anywhere, but to also be able to function effectively in any section of information and knowledge establishment they find themselves. However, studies have shown that many of early career librarians lack the capacity to effectively carry out the tasks assigned in some critical areas that involve information technology, information and knowledge organisation, especially cataloguing and classification etc. For instance, in South Africa, lack of interest among newcomers in cataloguing was observed by De Klerk & Fourie (2017), which the authors attributed to deficiency in general knowledge. Similarly, Kyprianos, Efthymiou, & Kouis, (2022) in their survey of undergraduate students' perceptions and feelings about cataloging reported that students do not feel very confident about the skills they have acquired in cataloguing.

On completion of their undergraduate or master's programmes, it should also be possible for the products of any library schools to proceed and further their studies in any institution of their choice without any let or hindrance. Unfortunately, still, the noticeable deficiency in the curricula as may be evident in the transcript, when presented to some new institution of choice, may stall their progress or inhibit them from advancing their studies until the necessary rectification is carried out. This often leads to frustration and disappointment as the applicants may be advised to register for additional modules or do more years of study to qualify for admission for the desired higher degree programme, if the admission is not outrightly declined.

It is in the light of the above that this essay embraces the clarion call for global realignment of LIS curricula. The development of a curriculum should necessarily be a product of a series of consultation and collaboration among scholars in library and information schools across the world. At the University of Botswana efforts are being made and observed for global realignment in processing acceptable LIS curricula using the vehicle of scholarly communication. The Department of Library and Information Studies (DLIS) ensures its curricula, qualifications and programmes are not just accredited at home by Botswana

Qualification Authority but receive endorsement from outside by LIS scholars and bodies as well. A number of other strategies are being undertaken to ensure the programmes on offer are not demeaned. The steps taken along this direction are considered in this essay.

Statement of the problem

LIS programme is a global education venture operating in various institutions of higher learning across the world. The advocacy for a global design and realignment of its curricula should be considered essential and of necessity. Stabback (2016) iterates that curriculum should take into account local, national and global needs and expectations. Marope (2017) confirms that credible curricula processes are necessarily inclusive and consultative involving professionals, local, national, and global communities at large. The development of curricula should be an upshot of unfettered cross-fertilisation of ideas through scholarly communication among LIS schools and scholars globally culminating in harmony of curricula, effective teaching and learning, especially core courses, and ease of movements among LIS graduates for higher degree programmes to any institution of choice. Regrettably, evidence of discordance and shortfall in LIS curricula has been established among library schools. For instance, in a comparative study of library and information science curricula in tertiary institutions in South-East Nigeria, Nwosu, Eyisi, and Aghauche (2013) revealed the absence of uniformity and conformity in the LIS curricula in the universities studied. Probably more worrisome is the revelation by Saka, Garba, and Zarmai (2018) that some universities and polytechnics are offering LIS diploma programmes that are not accredited. The corollary of the discordant tunes of LIS curricula is the adverse effect it imposes on the new entrants into the profession who graduated without adequate knowledge, skills and competences to be marketable, and meet the demand of the new age of information and knowledge in workplaces. In some cases, the new graduates find it a Herculean task to gain admission for further studies in the institutions of their choice with their transcripts.

A preponderance of literature exists on the inability of the newly graduated LIS professionals to carry out some salient tasks like organising knowledge and information – i.e. cataloguing and classification, information and communication technology related tasks etc. (De Klerk & Fourie, 2017; Kyprianos, Efthymiou, & Kouis, 2022; Oladokun & Mooko, 2023). Truncation of plans of some LIS graduates also occurs when they were denied admission into higher degree programmes of other institutions in a country different from where they initially studied. For instance, the Department of Library and Information Studies, University of Botswana, once embarrassingly witnessed an instance when its degree certificate was downgraded to diploma and admission was denied to a former student who had applied to do a master's degree programme in LIS at a UK university. In another case witnessed, a LIS master's degree holder was denied admission into a PhD programme in another country different from where he did his master's degree. The reason for the

denial was said to be in the duration of the master's degree which was six months shy of the expected two years acceptable duration for such programme in the new institution. The candidate was then requested to do a year-long master's programme by research to be qualified for admission into the PhD programme. The global discordant tunes in LIS education and training seem to smack of inadequate comparative evidence that can be nipped in the bud through appropriate and adherence to scholarly communication.

All in all, a curriculum should not only reflect the local needs; the universal needs should be considered as well. Whilst it was obvious that the UB LIS curricula largely meet the local needs, there was no guarantee that the curricula suitably responded to the global needs. Thus, the need arises for the UB LIS curricula to be updated not only to accommodate the changing needs of the profession as observed internationally, but also to mitigate the deficiency perceived in the curricula that denies its graduates from gaining admission to the UK universities.

Objective

Principally, the purpose of the study was to examine the drive towards global realignment of LIS curricula through scholarly communication at the University of Botswana. Specifically, the essay aimed to:

- Determine and justify the advocacy for global repositioning and realignment of curricula through scholarly communication
- Establish the efforts of the University of Botswana in global realignment of its LIS curricula through scholarly communication

Literature review

The review of literature in this study is segmented into two, namely: Curriculum development and scholarly communication on LIS curricula

Curriculum development

Staake (2023) identifies curriculum development as the process of determining what students will learn in a specific course of study, adding that at the broadest level, curriculum developers consider what subjects or topics are appropriate for the learning group. The developers then drill down into more detail in each subject or topic, setting the learning objectives and goals students will be able to achieve upon completing the course. Perhaps the explanation is more detailed in the account of Camosun College (2024) in Canada, as the institution states that curriculum refers to the principle-driven actions and processes that guide and foster significant learning experiences. The College affirms that curriculum development is a planned, thoughtful and deliberate course of actions that ultimately enhance the quality and impact of the learning experience for students and that it includes

the development and organization of learning activities designed to meet intended learning outcomes. The institution further adds that the development also involves the thoughtful assessment of those learning outcomes, stressing that the ultimate goal of curriculum is to enhance the quality and impact of the teaching and learning experience.

In her own submission on reconceptualizing and repositioning curriculum in the 21st century, Marope (2017) contends that curricula determine the fate of individuals, communities, countries, and the world, by determining what, why, when, and how people learn. In what seems to be a subscription to the views of other authors, Marope explains that credible curricula processes should involve stakeholders far beyond the boundaries of the education sector to include professional, local, national, and global communities at large.

Several agencies and scholars are of the view that school curricula should be critically reviewed. The need for curriculum change is motivated by many factors. UNESCO's International Bureau of Education (UNESCO-IBE) (2015), which oversees the policies and processes of curriculum development, expresses educational domains (policy-making, educational planning, curriculum development, teacher education, student learning and assessment, etc.) to give effect to lifelong learning. The Bureau states that curriculum development and change should be guided by a holistic and systemic approach, which is critical to ensuring effectiveness and sustainability, instead of a piecemeal approach. The Bureau further emphasised that such change processes should be based on broad consultations, in order to ensure relevance, common understanding, ownership, commitment, and support. Examining the significance of curriculum development, Creatrix (2023: 1) highlights its immense importance in education for several reasons including:

- Alignment with educational goals which ensures that the educational programs align with the overall goals of an institution and helps create a clear vision of what students should learn and achieve.
- Relevance and currency where educators can ensure that the content and instructional strategies are up-to-date, and integrate with current knowledge, emerging trends, and real-world applications.
- Consistency and coherence which are provided in learning experience for students; ensure that learning activities are interconnected, build upon one another, and promote a deeper understanding of concepts.
- Learning outcomes and assessment – which ensure that the identification and articulation of specific learning outcomes are made possible, making it easier to assess student progress and achievement.
- Flexibility and adaptability that offer the possibility to meet the evolving needs and diverse learning styles of students and ensuring that the curriculum can be modified or adjusted based on feedback, emerging research, or changes in educational policies.

- Continuous improvement - Curriculum development facilitates on-going evaluation, feedback and improvement of educational programs

In their write up on guides to curriculum review Dyjur, Grant, and Kalu (2019: 5) list out the benefits of undertaking a curriculum review thus: Enhance student learning and experiences; Provide an opportunity for critical reflection on the program's curriculum; Articulate the strengths of a program; Increase discussion and collaboration among instructors and others who play a role in the program; Provide opportunities for student voice and input; Reflect on and strengthening teaching and learning practices; Provide evidence to guide decision-making within the program; Understand the relationship among courses within a program and Identify specific actions to strengthen an academic program.

Writing on the need for curriculum reform, Burns and Brooks (1970) - two veterans on curriculum development, listed fourteen reasons why curricula need changing. Some of the listed reasons considered pertinent to this study include: living in a global society; living in a rapidly changing world; culture is experiencing information explosion; new technical innovations for which new curricula patterns can be designed; knowledge of what is true is constantly changing; the behavioural definition of learning products revealing deficiencies in the present curricula.

In their treatise on the process of change in curriculum, Dayao and Aquino (2022) acknowledge that the process involves teachers, schools, and the community, and is aimed at enhancing professional growth and improving the effectiveness of education. Dayao and Aquino argue that, curriculum changes are necessary to ensure that educational programs remain relevant and meet the needs of students in a changing world. Ng (2020) also obviously conceived the idea of change in curriculum when he advocates that future curriculum needs to break away from the present subject based design but to look beyond, moving into more multidisciplinary, trans-disciplinary where the lines between subjects are blurring, where big ideas are being explored and where learning can be more holistic and meaningful. In embracing the change in curriculum, Gouëdard et al. (2020) cited Chingos and Whitehurst (2012) in their observation that the interest in curriculum change and reforms has not only been sparked by the necessity to ensure that students have the skills and attitudes suited for the 21st century, but also by the potential impact of the adoption of a specific curriculum on students' learning outcomes.

Leaning on the belief that scholarly communication is of significance in developing curriculum, Stabback (2016) affirms that the development of curriculum should take account of good research and practice in and beyond a particular country.

The implication of this is that looking inwards (at the current curriculum), outwards (at what others are doing –locally, nationally and internationally), and forwards (at what we need to do to prepare young people for their futures).More specifically, it also implies that curriculum development should have reliance on scholarly communication borne out of research and the practice within and, or outside any country.

Though the steps may be varied or modified to meet the needs of the students and stakeholders, Button (2021) asserts that many curriculum development textbooks present the stages of the curriculum development process as follows: 1) Needs analysis or assessment 2) Setting goals and objectives 3) Course organization 4) Selecting and preparing teaching materials and 5) Evaluation. Similar to Button's reflection on stages of the curriculum development, Kabita and Ji (2017) allude to an age-long but pertinent Tyler's (1949: 1) observation that educators need to reflect on four specified questions, when planning change in education, and especially the curriculum: First, what educational purposes should the school seek to attain? Second, what educational experiences can be provided that are likely to attain these purposes? Third, how can these educational experiences be effectively organized? Fourth, how can we determine whether these purposes are being attained? Stabback (2016:11) also suggests a contribution on 'what makes a quality curriculum?' by listing out the following as criteria: Are there clear aims for the curriculum? Is the curriculum up-to-date? Is it relevant to students' current and future lives, experiences, environments and aspirations? Does it create a socially and economically prosperous future? Is the curriculum equitable and inclusive? (i.e. does it take into account the diversity of learners and the different learner needs; does it cater for marginalized groups; does it avoid biases); Is the curriculum learner-centred and learner-friendly? (i.e. does it take learner needs into account; does it avoid discrimination; does it contribute to personal development and life skills; does it make sense – is it meaningful for learners); Is the curriculum open and flexible, so that it can address new challenges and opportunities by integrating new/emerging issues?; Is the curriculum coherent and consistent across different education stages/grades/streams and learning areas/subjects?

Marope (2017:10), in her advocacy on reconceptualising and repositioning curriculum in the 21st Century: a global paradigm shift, declares that the new paradigm recognizes curriculum as a more dynamic, complex, and multi-dimensional concept than its current conceptualizations portray. She asserts that the change calls for a reconceptualization of curriculum along the following key dimensions: the first operational tool for ensuring the sustained development relevance of education and learning systems; a catalyst for innovation, disruption, and social transformation; a force for social equity, justice, cohesion, stability, and peace; an integrative core of education systems; an enabler of lifelong

learning; a determinant of the quality of education and learning; a determinant of key cost drivers of education and learning systems; and a lifelong learning system in its own right.

Of particular relevance in this discourse is the issue of localization and internationalization in curriculum development, which has been specifically ascribed to Stabback (2016) and Marope (2017) in this essay. With the conviction that local identity should be preserved, whilst exposure to a globalized world should also be embraced, Verbolabs (2024) considers globalization or internationalization as the process of integrating economies, societies, and cultures through the exchange of goods, services, and ideas. The organization believes the goal is to create a common educational framework that can be applied globally. Affirming that the goal of localization is to create an educational framework that is tailored to the unique needs of a particular region or community, Verbolabs defines localization as the process of adapting educational practices, policies, and curricula to meet the needs of a specific region or community. As the world of work and business is becoming more international, more globalised, more multicultural and more cosmopolitan, Chu and Raju et al. (2022) were emphatic that developers of LIS programme should ensure it meets local quality criteria and institutional missions, and it is aligned with international quality guidelines.

Scholarly communication on LIS curricula

Kabita & Ji (2017) made a clamour that numerous countries are currently developing or revising their curriculum in light of the global trend emphasizing on 21st century competencies. Similarly, Gouédard et al. (2020) joined in the alert that countries, including the OECD countries, consider curriculum reform as an important and necessary measure to make schools enter the 21st century and respond to a fast-changing world, adding that the reform is a way to equip students with the knowledge, skills and competences needed for tomorrow and to better prepare them. In the IFLA guidelines for professional library and information science (LIS) education programmes they authored, Chu and Raju et al. (2022) affirm that it is important to develop both disciplinary and cross-sector knowledge, which includes recognising commonalities libraries and information services share with related sectors, such as archives, museums, records management and data management, and developing complementary knowledge from cognate fields, such as computer science, data science, education, and communications. This view of Chu and Raju et al seems to be in tandem with the need to break down the insularity of a discipline into multidisciplinary and trans-disciplinary where the lines between subjects are blurred, an idea also canvassed for by other authors.

Matusiak, Stansbury, and Barczyk (2014) in their communication of the United States perspective on educating a new generation of library and information science professionals, acknowledged the American Library Association (ALA) as the accrediting

agency responsible for reviewing and accrediting the LIS programs in the U.S. Relying on the opinion of the profession, the authors claim that ALA determines the scope of the Standards. In regards to the scope of the Master's degree curriculum, the Standard asserts that the curriculum, among others, emphasizes an evolving body of knowledge that reflects the findings of basic and applied research from relevant fields, integrates the theory, application, and use of technology, responds to the needs of a rapidly changing technological and global society, provides direction for future development of the field and promotes commitment to continuous professional growth. In Europe, Virkus (2008) asserts that in the last two decades an increasing interest in internationalization has been evident in library and information science (LIS) education. Virkus observed however that quite recently expansion and intensification of collaborative initiatives can be identified. She indicated that European LIS schools have started to participate more actively in joint activities in response to the challenges of globalization, to improve, innovate and strengthen the LIS curricula and courses to serve the changing needs of students and the global employment market, and to meet the international standards of quality in teaching, research and services.

Writing on the road to meeting the 21st Century challenges in LIS education in Bangladesh, Begum, and Elahi (2017) consider that the profession is in its most diversified form in this century where the librarians need to break the shackles of traditional approach and that the nature of education and training also needed to be upgraded. These authors confirm that the information scientists of Bangladesh have felt the necessity of modernizing the LIS curriculum to meet the challenges of 21st century. They note that the curriculum has extensively changed to incorporate the modern courses like integrated library management system, server administration, database management system, information architecture, data mining, web based applications for library services, programming languages and so on.

In Africa, some initiatives have also been observed in line with the global trend in LIS curricula and technological development. Ocholla and Bothma (2007) established in their study that LIS schools especially in Africa have, to a greater or lesser extent, been redesigning their curricula to keep track of the latest developments in the information world and keep their teaching market-related. They argue that common trends of LIS education are shared by most LIS schools in Africa. In Nigerian LIS education, Olubiyo (2022) chronicles the effort to address squarely and decisively the curricula. He affirms that the Librarians' Registration Council of Nigeria (LRCN) has made a gigantic effort by organizing a summit on Library School Curriculum Review and Development of Benchmarks in 2015 with the main aim of enriching the curriculum of library schools in Nigeria in line with the recent global best practices for library sustainability. He claims that lingering matters concerning course contents for LIS schools in Nigeria, facilities, nomenclature, staffing, location of LIS programmes, process of implementation of

benchmark, establishment of LIS programmes and accreditation were painstakingly deliberated upon by stakeholders at the summit. As a result of the summit, the LRCN is shouldering the responsibility of developing a unified curriculum for LIS schools in Nigeria which has passed through some stages. Much earlier, Nwosu, Eyisi, and Aghauche (2013) in a study had revealed the absence of uniformity and conformity in the LIS curricula in the universities studied. The implication of this is that some of the library schools were operating in solitude and conducting their programmes in silos. As if the lack of uniformity in the curricula of LIS schools studied was not bad enough, Saka, Garba, and Zarmai (2018) disclose that some universities and polytechnics are offering LIS diploma programmes that were not accredited. This scenario in Nigeria was also confirmed by Otike (2017) when he observed that LIS schools are mushrooming all over the continent. He raised the alarm that if the mushrooming trend is not checked, it could have a serious effect on the quality of the graduates. In order to mitigate this ill-wind, Smith (2012) advocates for increased accreditation of LIS programs and iSchools, whilst Otike's study supplicates that LIS schools will need to match the rapid changes taking place in the information industry.

In Botswana, a tracer study by Aina and Moahi (1999) sought to determine the relevance of the training of the graduates of LIS at the University of Botswana to their tasks and perceptions of the curriculum of the Department. The study advocated for the strengthening of the information technology component of the curriculum. Jain and Jorosi (2016) also did a study on LIS education at the University of Botswana. They noted that in order to equip future information professionals with the right skills and competencies for the current job market and to prepare them for the emerging global society, DLIS keeps reviewing its teaching curricula to introduce new programmes. The result of the investigation of the job market and emerging global society was the development of new programmes including winter programme, Bachelor of Information Systems programme for the curricula harmonisation; and Bachelor of Information and Knowledge Management (BIKM) programme. Though some efforts had been made at strengthening the IT component, but possibly for reasons of increasing technological advancement, Oladokun and Mooko (2023) still found that there was a lack of adequate knowledge to perform information technology and other salient tasks among the practising librarians most of who were within 5 years of graduation at the University of Botswana. Could it then be that the noticeable deficiency emanated from the LIS curricula they went through or inadequate effort on the part of the practising librarians? The authors argue that the librarians of the 21st century are required to work harder, learn more skills and perform new tasks. They also advocated for suitable continuing professional development which they consider as an adventure to keep current with developments in the profession and be reskilled for challenges that may rear up in the industry (Mooko and Oladokun, 2021).

In their study on the adequacy of LIS curriculum using Tanzanian universities as a case study, Mubofu and Mambo (2023) advocated for the need to align LIS education curriculum with global trends to ensure that graduates have the requisite skills and knowledge to meet the demands of the ever-evolving field. The authors highlight a number of subject areas that students need to be equipped with. These include: digital literacy, emerging technologies, user-centered services, and diversity, equity, and inclusion as critical areas requiring prioritization in the LIS curriculum. They also recommend the development of technical skills, soft skills, emerging technologies, and cultural competencies with practical training opportunities, real-world case studies, and industry partnerships. The study emphasizes the importance of information security and privacy, data management and analysis, collection development and management, marketing and outreach, digital humanities and scholarship, and accessibility and universal design in LIS education.

Writing on Library and Information Science (LIS) Education in the 21st Century: Emerging Skills for a Changing World, Olubiyo (2022) was emphatic that the rules and regulations to process resources are acquired from the academic world where the skills are being taught, to handle library information resources in a way that users can easily access them. After examining the core skills traditionally associated with LIS, he came up with some essential 21st century changing cross-sector skills comprising: IT skills, such as word-processing and spreadsheets, digitization skills, and conducting internet searches, loan systems, databases, content management systems, and specially designed programmes and packages. In the innovative age of information science and technology, Olubiyo holds to the firm belief that it is crucial for librarians to possess the necessary competencies for working in a specialized workplace, where the equipment and the clients' needs are changing rapidly. He concludes by asserting that LIS education should incorporate the modern information-processing skills for variety of the profession in a changing world of the 21st century. Much earlier, Varalakshmi (2006) in his submission on Educating 21st Century LIS Professionals – Needs and Expectations in a survey he carried out among LIS professionals and alumni in India, acknowledges that the past few decades have brought about revolutionary changes in information handling activities as a result of advances in information and communication technologies. He holds the view that such monumental changes demand new roles for library and information science (LIS) professionals. He therefore advocates that the twenty-first century information professional must possess skills in content management, knowledge management, organisation of information on intranets and the internet, research services, developing and maintaining digital libraries, and bringing information resources to the desktop. He insists that people with the right skills are crucial for success and competitiveness in contemporary information environments. The outcome of the effort could probably be seen in the study of Ocholla and Ocholla (2020) when they proclaim that academic

libraries in Africa are responding well to the revolution through their services, with remarkable innovation and creativity on display. Whilst agreeing to low scoring, they aver that emerging trends/services revealed libraries as publishers, use robotics and artificial intelligence, research commons, makerspace and research data services, among others. They advocate that in order to improve in accordance with the trends, academic libraries have to be better resourced, accessed and used, as well as improve web visibility. Of utmost significance to this study is the issue of accreditation of programmes, especially since it is considered a primacy at the DLIS of the University of Botswana to accredit its programmes. Though they confirmed that not all LIS education programmes worldwide are accredited, Chu and Raju et al. (2022) asserts LIS schools or units should seek accreditation of their programmes by appropriate local, national and/or international accreditation bodies. They also advocated that LIS programme should meet such educational/academic and professional accreditation requirements in the institution, within the norm of regulatory or accreditation bodies and cultural frameworks. Applegate (2022) affirms that accreditation serves two main functions: proving and improving. According to Applegate, accreditation standards and decisions “prove” to the public at large and to distinct consumers that a program is consistently achieving its publicly stated purposes. On the of planning process, Chu and Raju et al. proclaim that it should engage quantitative and qualitative evidence, and involve all stakeholders (such as professional bodies of the country, academic staff, students, and practitioners). They also suggest that equity, diversity, inclusion, and accessibility (EDIA) should drive programme development, including decolonisation and indigenisation of content and practice.

It is obvious as established in extant literature that the advocacy for realignment of LIS curricula is not peculiar to a section or a group, it is universal. Curiously, it is remarkable to note that indeed the clamour for reconceptualising and repositioning of curriculum generally is loud with such organisations as UNESCO and OECD. Good enough, scholars in curriculum development in LIS profession are also in the vanguard of not only advocating for change and realignment, but also taking steps to put advocacy into practice.

Methodology

The essay is based on literature review and the author’s experience and observation as a professional librarian/practitioner in academic libraries and as an educator in Library and Information Studies.

Discussion

With the vision to “become a leading centre of academic excellence in Africa in the education and training of information and knowledge management professionals” and the mission to “provide quality education and training that is driven by state-of-the-art information and

communications technology, research and publications” (DLIS Handbook, 2012), DLIS suffered a humiliation when its student could not gain direct admission to a UK university for higher degree programmes and its degree certification was downgraded to a diploma. DLIS decided a number of scholarly strategies should be put in place to ensure that LIS education and training in Botswana is uplifted to global level and never again disparaged. First, in line with the extant literature that suggests global outlook (Stabback, 2016; Marope, 2017), DLIS curricula must be subjected to comparison with similar curricula in other institutions within the region and internationally. The idea of providing a comparability matrix with other institutions at regional and international levels running similar programmes is also a requirement of Botswana Qualification Authority for a qualification or programme to be registered and/or approved. A typical example of a benchmarked programme is provided below

At the regional level, the UB Master of Library and Information Studies (MLIS) was benchmarked with the Master of Library and Information Studies at the University of Cape Town having 48 credits and provides learners with a broad foundation in areas of information organization, professional foundations, research, policy and management. At the international level, we benchmarked our MLIS mainly with similar programme in three institutions, namely Master of Information Science, McGill University, Canada which is worth 48 credits and prepares learners to manage change in a technologically oriented, knowledge-based environment. Second, MSc/ MA Library Science degree at the City University of London which is worth 165 credits and provides learners with a solid foundation in library and information sciences through a curriculum which teaches how information is stored, organized, researched, and retrieved. Third, Master of Science in Library and Information Science degree Syracuse University which is worth 36 credits and provides a solid framework of library science as well as knowledge, values, and skills of librarianship within the context of an interdisciplinary faculty was considered. Other qualifications offered in countries such as Australia, Nigeria and Kenya generally emphasize the development of competencies in research, management and the use of modern technological devices across the discipline. It is imperative to note that the institutions which DLIS benchmarked its programmes with were not selected on purpose. The desire, arising from global realignment, was to search for any institutions at the local, regional and international levels for benchmarking. It can therefore be said that the selected institutions merely emerged by default. For other DLIS programmes, the institutions selected at regional and international levels for comparability matrix were not necessarily those selected for master programme.

It is observed that though the qualifications examined generally follow similar structures and standards, there are significant differences in the credits allocated to mandatory courses, duration of experiential learning and the length of the research project or dissertation. DLIS

MLIS qualification generally compares well with all the qualifications studied since the exit outcomes cover similar scope and depth and are aligned to exit-level descriptors typical of this level and type of qualification as done within the region and beyond. Further to this, requisite competencies required for registration and accreditation with professional bodies such as American Library Association (ALA), Chartered Institute of Library and Information Professionals (CILIP) and The Australian Library Association (ALIA) have been taken into account. Greatorex et al. (2019) opine that the process of curriculum mapping is to determine which curriculum features will serve as the basis of comparison. In a more detailed discourse, Adamson and Morris (2007: 263) argue that 'many stakeholders in education undertake comparisons of curricula'. They assert that Governments increasingly compare their states' curricula with overseas models when searching for new initiatives and when attempting to enhance international competitiveness; parents compare the offerings of schools in order to choose suitable institutions for their children; students look at the range of courses available when they select electives; and all parties except possibly the pupils make comparisons between current curricula and those which operated in earlier historical periods. Adamson and Morris further contend that all curriculum research involves some degree of comparison. The comparison of the UB DLIS curricula is in tandem with the views expressed above.

For purposes of approval and accreditation, DLIS programmes are locally approved and accredited by Botswana Qualification Authority as earlier indicated. Beyond this, DLIS has also approached the UK Chartered Institute of Library and Information Professionals (CILIP) with a view to accrediting the LIS programmes on offer. As CILIP directed, DLIS opened up discussion with ENIC - the United Kingdom National Information Centre for the recognition and evaluation of international qualifications and skills, with a view to meeting the requirement which was considered paramount before CILIP could accredit programmes. Chu and Raju et al. (2022) advocate that LIS schools or units should seek accreditation of their programmes by appropriate local, national and/or international accreditation bodies. Determined not to fall victim of operating in silos as noted of some institutions in the literature, DLIS is working with the Centre for Academic Development (CAD) of the University of Botswana to ensure DLIS is affiliated to iSchools and registered with other professional organisations like International Council on Archives (ICA), International Federation of Library Associations and Institutions (IFLA), and International Research on Permanent Authentic Records in Electronic Systems (InterPARES). At the time of this writing, CAD is already at work to ensure DLIS membership of iSchools. Opportunities offered by the professional bodies' guarantee opening up and ensuring non-vulnerability of the products of DLIS. For example, as a global organisation, iSchools leadership from each region meets regularly to discuss challenges and opportunities globally as well as topics common to their area. Regional approaches to education, research and other matters are described in the regional subpages (iSchools, 2024). Among other benefits,

membership of iSchools ensures connecting schools and researchers in the field of information science worldwide; promoting their collaboration, exchange, and support. Each region also maintains its own sub-network that focuses on issues that are of interest to that region. Smith (2012) had advocated for increased collaboration with iSchools. As if in response to the call, Matusiak, Stansbury, and Barczyk (2014) indicated there are many LIS Schools that are members of iSchools in the US. They acknowledge that the iSchool group offer more courses and new concentrations, but non-iSchools have a higher number of concentrations. iSchools tend to have larger programs with Bachelor's degrees and PhDs, whilst when Master's programs are considered, both groups appear to be similar.

Further, DLIS abides by the mandate to review its curricula every five years. Prior to carrying out the internal review, at least two international scholars from Africa and Europe are brought to Botswana to go through DLIS programmes and curricula vis-à-vis the international standards. The report generated assists DLIS in its five-yearly programme review. At the local level, the stakeholders, including the employers of our products, are usually involved and their interventions welcome in the plan. Marope (2017) corroborates these exertions when she states that credible curricula processes are necessarily inclusive and consultative involving professional, local, national, and global communities at large. On the issue of periodic curriculum review which DLIS holds every five years, Dyjur, Grant, and Kalu (2019) in their write up on continuous improvement of curriculum suggest that iterative process should be conducted every 5-7 years. DLIS has had to beef up its curricula by strengthening the IT components, information and knowledge management, and incorporating the emerging technologies, introducing e-cataloguing and classification and a number of courses found through scholarly communication, especially, on social media application, internet website construction, cultural and multicultural competencies, among others. These are the areas where DLIS had suffered some deficiencies. Writing on curriculum review process, Minnetonka Public Schools (2020) avers that the goal of review process is to advance the quality of curriculum and instruction and to promote excellence in student performance using the best possible instructional practices, curricula, and materials.

Conclusion and recommendations

To appropriately equip LIS students with the right knowledge, skills and competencies to be marketable internationally and meet the demand of modern times, it is important that harmony is built in LIS curricula worldwide through scholarly communication. LIS Schools should ensure that their curricula are effectively comparable with what operates elsewhere. This calls for alertness of library school operators and the need to review, change or redesign their curricula possibly within a space of five years to incorporate new developments, including learners' experience, in the information world and keep their teaching market-related. As Chu and Raju et al. suggest, the review should also include

evolving technologies impacting LIS professional practice, new trends/innovations, and anticipated changes in LIS and cognate fields as well as in broader society. A library school that resigns itself to solitary existence in curriculum development, will not only be humbled and embarrassed of its inadequacy often and again, but will also frustrate their products when competed in the job market and other opportunities. LIS schools that operate in silos will succeed in exposing the vulnerability of not only the school, but also the students who entrust their destiny in the hands of such institutions. A product of an institution that dodges professional tasks and cannot compete with their peers in market related issues cannot be a pride of their institutions. Robust education and training programmes will equip the students with the right skills. These programmes can only be guaranteed through scholarly communication, comparability system and adhering to the consultative suggestions of the stakeholders. It is abhorrent for a library school in its curricula to close up to generated research publications, scholarly writings and other scholarly works obtained in other schools through scholarly communication, operate independently and avoid sharing information as well. The school that operates in silos will eventually find out it is out of tune with the demand of the times and operating in 'a world that no longer exists'. The Department of Library and Information Studies, University of Botswana had encountered some of the ugly issues and jettisoned them in favour of commitment to fostering inclusivity in global repositioning of its curricula through scholarly communication and consultation. DLIS is never shy of borrowing useful vessels by introducing relevant new courses found in other LIS schools. The process of global realignment of LIS curricula guarantees the principle of uniformity and consistency required in the education and training of professionals irrespective of the institution of training. It safeguards and opens the corridor for acceptance, ease of continuity in training and marketability for the trained professionals.

As this essay concludes, a note of thoughtfulness should be ingrained to this discourse. Whilst internationalization of LIS curricula is being advocated and adhered to, it is also important that the values cherished in various regions of the world are incorporated into the curricula. Lankes (2011: 177) clearly specifies that "It is in education that we instill our values and our worldview, in addition to the skills needed by communities". The issue of decolonizing research is gradually warming its way back to the front burner of study. It is therefore important that various regions should not ignore placing concerns and worldviews on non-Western individuals in LIS research. In Africa, for instance, the place of aphorisms, incantations, parables, proverbs, folktales, folklores, myths and idioms, as cherished values to impart knowledge and ideas should be given a pride of place in LIS curriculum and research. Stabback (2016) also echoes the view that curriculum should be seen as representing a conscious and systematic selection of knowledge, skills and values.

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Informe sobre la formación en ciencia abierta que se imparte en las principales escuelas de bibliotecología e información de Costa Rica

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Resumen

Este artículo muestra las condiciones reales en que se aplican o no las estrategias para la formación en ciencia abierta de los estudiantes de educación superior en dos carreras universitarias costarricenses. Este proceso fue analizado a partir de lo que muestran sus planes de estudio y de las entrevistas realizadas a sus directores para complementar los datos. Se trata de la Escuela de Bibliotecología y Ciencias de la Información, en la Universidad de Costa Rica y la Escuela de Bibliotecología, Documentación e Información, de la Universidad Nacional. Estas dos instituciones de educación superior son las más antiguas y más grandes del país y por eso fueron escogidas. Se concluye del estudio que ninguna de las dos escuelas muestra una estrategia clara para formar en los futuros profesionales en bibliotecología una cultura de ciencia abierta, a pesar de que ambos directores reconocen su importancia. Por otro lado, existen tímidas acciones de actualización y capacitación del personal docente, de manera que se observan pocas posibilidades de que en estas condiciones, la ciencia abierta avance en el país, a partir de las acciones de los profesionales en información.

Palabras clave: Ciencia abierta, educación superior, Costa Rica, educación en bibliotecología y ciencia de la información, profesionales en información.

Abstract

This article shows the real conditions in which strategies for training in open science for higher education students are applied or not in two Costa Rican university courses. This process was analyzed based on what is included in their Curriculum and interviews conducted with their directors to complement the data. These are the School of Library and Information Sciences at the University of Costa Rica and the School of Library Science, Documentation and Information at the National University. These two higher education institutions are the oldest and largest in the country and that is why they were chosen. The study concludes that neither of the two schools shows a clear strategy to train future library science professionals in an open science culture, even though both directors recognize its importance. On the other hand, there are weak actions to update and train the teaching staff, so that there is little chance that open science will advance in the country under these conditions.

Keywords: open science, higher education, Costa Rica, library and information science (LIS) education, LIS professionals

Introducción

La ciencia abierta ha existido desde mucho tiempo atrás, pero fue en el siglo XXI que empezó a formalizarse como una necesidad para el mundo. Como bien lo expresó Wilson (2015), “La ciencia abierta no es un movimiento, es solo (buena) ciencia”. La ciencia moderna fue concebida abierta, pero los primeros intentos de definirla con ese carácter, según Schroeder (2007), se dieron con Robert Merton, en 1968 cuando proponía una ciencia para todos con sus valores de universalismo, comunismo, sin interés personal y escepticismo organizado. Estos conceptos evolucionaron hasta llegar a consolidarse a partir del consenso que se logró en la Asamblea General de la UNESCO, en noviembre 2021 cuando fue aprobada una definición consensuada por 93 países y publicada en la “Recomendación de UNESCO sobre Ciencia Abierta” (UNESCO, 2021). Las bibliotecas se ven inmersas en este proceso ya que se convierten en un apoyo indiscutible para la apertura y como parte de ellas, los profesionales de la información son los actores decisivos que van a determinar el éxito del modelo (Ochoa-Gutiérrez y Uribe-Tirado, 2018).

Desde la aprobación de la “Recomendación sobre Ciencia Abierta”, se han organizado diferentes comisiones y grupos que desde la UNESCO han dirigido un seguimiento o monitoreo de los acuerdos¹, así como también comisiones a nivel nacional, según la fuerza que haya tomado en cada país o región. Para ello, la misma UNESCO se ha encargado

¹ Véase el documento que se encuentra en consulta aquí:

<https://www.unesco.org/en/articles/call-inputs-global-consultation-draft-principles-open-science-monitoring>

de publicar varios Toolkits que están disponibles en su repositorio para que sirvan de guía a quienes se disponen a trabajar en este campo. Así, se aclara que “la transición de la sociedad hacia los principios y prácticas de la ciencia abierta debe atender muchos niveles diferentes del desarrollo cultural de la gente”. Esta transición solo será posible con actividades de formación y una definición de políticas a nivel nacional, regional o institucional. “Un conjunto básico de habilidades científicas abiertas debería considerarse parte de la experiencia fundamental de todos los investigadores e incorporarse en los programas de educación superior” (UNESCO, 2023, p. 51).

Por lo tanto, preparar profesionales de información en ciencia abierta es estratégico porque este grupo de graduados será un contingente que reproduzca una cultura de ciencia abierta en la academia. Pero, sin planes específicos para formar profesionales de información en las escuelas universitarias, es difícil desarrollar estas habilidades requeridas con miras a la apertura.

Por el contrario, el carácter tradicional del diseño curricular es uno de los problemas – quizás el más importante- que influye en la formación de las escuelas de biblioteconomía y documentación de América Latina (Yew et al., 2022). También, las acciones de formación en ciencia abierta están enfocadas hacia diferentes actores que trabajan en la investigación, gestión de datos, análisis, reuso y diseminación de información, pero menos en el campo de la formación y el desarrollo del currículo en las universidades. Como propone la UNESCO, “la sostenibilidad a largo plazo de la ciencia abierta requiere el apoyo institucional y la inversión sistemática en planes y estrategias coherentes y comprensivos sobre ciencia abierta” (UNESCO, 2023, p. 51).

Por estas y otras razones, es importante analizar el estado de la educación universitaria en ciencia abierta, y sus temas relacionados como la comunicación científica, el acceso a las publicaciones, los recursos didácticos, principios básicos de la disciplina y su desarrollo epistemológico a nivel universitario.

En este estudio de caso, realizamos este análisis en dos escuelas universitarias que preparan profesionales en información en Costa Rica: la Universidad Nacional (UNA) y la Universidad de Costa Rica (UCR), con el fin de conocer desde la perspectiva de sus directores y el contenido de los cursos, el estado de la formación en ciencia abierta que se ofrece a los profesionales en información en estos casos.

Contextualización

Costa Rica es el segundo país más pequeño de Centroamérica, que tiene una población de 5,05 millones y una extensión de 51.000 Km cuadrados². Su población se concentra en la Gran Área Metropolitana (GAM) y sobre todo, en la provincia de San José donde se ubica su ciudad capital, con el mismo nombre. Se ha distinguido por su alto nivel educativo, estimado en un 97% de alfabetización y una inversión en educación del 6,7% del producto interno bruto (PIB). Tiene 60 bibliotecas públicas y la Biblioteca Nacional que pertenecen todas al Sistema Nacional de Bibliotecas (SINABI)³. Las universidades tienen un sistema de bibliotecas cada una, que puede estar formado por diez o más bibliotecas, de acuerdo con la población a la que atienden.

Este país cuenta con cinco universidades públicas, organizadas en el Consejo Nacional de Rectores (CONARE), además 53 privadas y 6 internacionales. La más antigua y más desarrollada de todas estas es la Universidad de Costa Rica (UCR), fundada en 1940. Imparte carreras de grado y posgrado (bachillerato, licenciatura, maestría y doctorado) en todas las áreas del conocimiento. Luego, en orden de aparición, se encuentran la Universidad Nacional (UNA, 1973), el Instituto Tecnológico de Costa Rica (ITCR, 1971), la Universidad Estatal a Distancia (UNED, 1977) y la Universidad Técnica Nacional (UTN, 2008). Sobre las 53 universidades privadas no voy a referirme, excepto a la Universidad Autónoma de Centroamérica (UACA, 1976), pues es la única que imparte un bachillerato en bibliotecología en su Sede Central (en San José) y en la Sede del Pacífico y fue la primera universidad privada que apareció en el país. Así, en Costa Rica se ofrecen tres carreras de grado en Bibliotecología y dos en posgrado en las universidades públicas y una de grado en la UACA; además, algunas tienen sucursales en las sedes regionales, fuera de la Gran Área Metropolitana (GAM).

La primera de las carreras en bibliotecología nacidas en el seno de las universidades públicas fue la de la UCR, en 1968 (Sandí, 2018) y mucho más tarde, aparece en 1977 (Miranda, 1991) la de la UNA. En 1991 nace la carrera de la UNED con un nivel preuniversitario, denominado diplomado, que luego se transforma en bachillerato, que es el nivel de grado.

Tanto las carreras de la UNED como de la UACA, tienen un desarrollo más incipiente, dado que evolucionaron posterior a las otras dos universidades públicas. Así, podríamos valorar que, para un país de 5,5 millones de habitantes, cuatro carreras de bibliotecología

² INEC-Costa Rica. Estimación de Población y Vivienda 2022. Disponible en: <https://inec.cr/estimaciones-poblacion-vivienda-2022>

³ Sistema Nacional de Bibliotecas (SINABI) - <https://www.sinabi.go.cr/bibliotecas/index.aspx>

equivalen a una carrera por 1,3 millón de habitantes, lo cual podría parecer excesivo. No obstante, esto ha significado que el desarrollo de la profesión en ciencia de la información haya interferido positivamente en el crecimiento de las bibliotecas y otras unidades de información (Sandí, 2018).

Revisión de literatura

“La ciencia abierta es un conjunto de principios y prácticas que tienen como objetivo hacer que la investigación científica de todos los campos sea accesible a todos para beneficio de los científicos y de la sociedad en su conjunto” (UNESCO, 2023). Esta frase resume la idea de la ciencia abierta, por lo cual podríamos tomarla como punto de partida para conceptualizar y evaluar los contenidos de los programas de estudio en LIS. No obstante, es importante recurrir a la definición que se aprobó por consenso en la Asamblea General de UNESCO en noviembre 2021 (UNESCO, 2021):

la ciencia abierta se define como un constructo inclusivo que combina diversos movimientos y prácticas con el fin de que los conocimientos científicos multilingües estén abiertamente disponibles y sean accesibles para todos, así como reutilizables por todos, se incrementen las colaboraciones científicas y el intercambio de información en beneficio de la ciencia y la sociedad, y se abran los procesos de creación, evaluación y comunicación de los conocimientos científicos a los agentes sociales más allá de la comunidad científica tradicional. La ciencia abierta comprende todas las disciplinas científicas y todos los aspectos de las prácticas académicas, incluidas las ciencias básicas y aplicadas, las ciencias naturales y sociales y las humanidades, y se basa en los siguientes pilares clave: conocimiento científico abierto, infraestructuras de la ciencia abierta, comunicación científica, participación abierta de los agentes sociales y diálogo abierto con otros sistemas de conocimiento (p. 7).

De los elementos que contiene esta definición podríamos destacar tres aspectos fundamentales: 1). La importancia de compartir la información para beneficio de la ciencia y la sociedad. 2). Es necesario abrir los procesos de creación, evaluación y comunicación del conocimiento científico. 3). Contemplar los cuatro pilares clave en los que se asientan las acciones de apertura. No hay duda que dentro de la concepción de la bibliotecología y ciencia de la información, estos elementos se pueden observar como sinónimos del quehacer bibliotecológico. Para ello, debemos tomar en cuenta varios requisitos que favorecerán el alcance de dichos elementos.

Así, para abrir el conocimiento es necesario contar con infraestructuras abiertas que utilicen metadatos e indicadores persistentes que permitan la comunicación entre las plataformas, al igual que los softwares de código abierto, hardware disponible con licencias abiertas o que sean de dominio público, de manera que se alcancen los principios de inclusividad, equidad y gratuidad que promueve la ciencia abierta. Así, las publicaciones deben ser de acceso abierto; los datos de investigación deben seguir los principios FAIR⁴, los recursos educativos abiertos “que residen en el dominio público o han sido publicados bajo una licencia abierta que permite el acceso, uso, adaptación y redistribución sin costo por parte de otros sin restricciones o con restricciones limitadas” (UNESCO, 2021, p. 10).

Dentro de los cuatro pilares que apoyan la ciencia abierta y que ha definido la UNESCO (2021), se encuentra “el acceso al conocimiento que incluye las publicaciones, los datos y los procesos; las infraestructuras, que abarca los laboratorios, las plataformas y los repositorios; la participación abierta de los agentes sociales que incluye la colaboración, la inteligencia colectiva, los métodos transdisciplinarios y el compromiso con la comunidad y por último, el diálogo abierto con otros sistemas de conocimiento que incluye el diálogo con académicos tradicionalmente marginados” (p. 13). Estos pilares son básicos para impulsar la ciencia abierta, de manera que se deben tomar en cuenta siempre al momento de decidir sobre la educación y formación o definir políticas, planes y programas para desarrollar acciones que tiendan a fortalecer su ámbito de acción. De igual manera, estas acciones deberán seguir un plan sistemático y permanente para que no pierdan continuidad (Kuchma, 2018; UNESCO, 2023).

Así, en el campo de la educación de los diferentes actores, la “Recomendación de la UNESCO” (2021) propone:

- (iv) Invertir en recursos humanos, formación, educación, alfabetización digital y desarrollo de capacidades para la ciencia abierta. a). Proporcionar un desarrollo de capacidades sistemático y continuo sobre los conceptos y las prácticas de la ciencia abierta, que incluya una comprensión amplia de los principios rectores y los valores fundamentales de la ciencia abierta, así como las competencias y capacidades técnicas en materia de alfabetización digital, las prácticas de colaboración digital, la ciencia de datos y la gestión de datos, la conservación, la preservación a largo plazo y el archivo, las competencias básicas en materia de información y datos, la ciberseguridad y la propiedad y el intercambio de los contenidos, así como la ingeniería de programas informáticos y la informática (p. 26).

⁴ FAIR Principles mean Findable, Accessible, Interoperable, and Reusable.

Quizás este estamento de la “Recomendación de UNESCO” es la más concreta indicación que concierne a la educación universitaria. Sin embargo, también es importante tomar en cuenta los valores y principios que esta recomendación nos propone: la equidad, la inclusión y la diversidad son valores que deben estar presentes. El intercambio, la transparencia, la reproducibilidad, la calidad, la reutilización y la sostenibilidad son principios que se deben incluir también.

En este sentido la Association of European Research Libraries (LIBER) ratifica estas recomendaciones para Europa en el documento “Open Science Roadmap” (Europe’s Research Library Network, 2022, p. 25), con un listado de habilidades y experiencias que ofrece a sus socios bibliotecarios. Esa lista es fundamental en la formación de los profesionales, y por ello el Grupo de Trabajo de la European Commission’s Open Science Skills las describe de la siguiente manera: “1). Habilidades de alfabetización en publicaciones abiertas. 2). Datos de investigación y acceso abierto, producción, gestión, análisis/uso/reutilización de datos, difusión y cambio de paradigma de “datos protegidos por defecto” a “datos abiertos por defecto”. 3). Promover una conducta de investigación profesional que incluya habilidades de gestión de la investigación, habilidades de integridad y ética de la investigación, habilidades legales. 4). Concepto amplio de Ciencia Ciudadana, donde los investigadores interactúan con el público en general para mejorar el impacto de la ciencia y la investigación”. Además, recomienda incluir las habilidades para la ciencia abierta en programas de formación para los estudiantes, entre otras estrategias. La pregunta que queda latente es si la ciencia abierta se aplica para cualquier especialidad de la Bibliotecología, puesto que en muchos casos nos referimos a las “bibliotecas de investigación” o las “bibliotecas universitarias”. Para Alfaro et al. (2022, p. 94) al referirse a las nuevas competencias que deben aplicarse en la formación de los profesionales de la información, reiteran el impacto de la tecnología para promover el acceso abierto a la información, para lo cual se deben introducir reformas en la malla curricular. Este es un campo que no hace diferencia entre las bibliotecas, pues la naturaleza educativa y formadora del profesional de la información y más aún en el campo de la investigación, invade todas las aristas de su quehacer.

Otro aspecto importante en este análisis es el desarrollo de habilidades investigativas en la formación del bibliotecólogo. En ese sentido, Córdoba y Flores (2011) realizaron un estudio en la EBCI para determinar la profundidad que se logra en esa formación, a partir del análisis de los cursos que se impartían. En ese momento se destacó la escasa formación de los docentes en el campo de la investigación, así como la poca práctica en realizar sus propios proyectos. Mientras tanto, la IFLA (2024, p. 7) destaca que es necesaria la competencia en investigación, tanto como práctica de los académicos, como en la formación de los profesionales: “La competencia investigadora incluye una

investigación orientada a problemas que analiza la base de las deficiencias encontradas en bibliotecología e intenta proporcionar posibles soluciones y comprensión para la práctica profesional en diversos entornos de información.”. De igual forma McKiernan et al. (2016) justifican con datos cómo la ciencia abierta contribuye al crecimiento de la ciencia y cómo esta debe integrarse a la formación de investigadores desde el inicio de su carrera (p. 13).

De aquí se deduce también la necesidad de reforzar esa área, tanto antes como ahora, pues solo se observan en el sitio web de la EBCI dos proyectos de investigación, que tenían vigencia hasta el 2022 y 2023⁵. Por su parte, entre el 2013-2015 se dieron solo tres proyectos vigentes, a pesar de que existieron muchos más en los años anteriores (Sandí & Vargas, 2016, p. 11-12). Adicionalmente, Alfaro et al. (2022, p. 99) refiriéndose a esa formación, exponen que “La existencia de una metodología en la enseñanza del proceso de investigación en la especialidad es clave, tanto individual como grupalmente, pero también se precisan espacios formativos que propicien tales habilidades y el interés por la investigación”. Estos autores aducen que la formación se debe dar desde dos vertientes: para que el profesional graduado sea un investigador y también, se deben desarrollar sus habilidades para que apoye la investigación. Ambas opciones resultan fundamentales para la transición hacia la ciencia abierta, por lo que dicha formación debe reforzarse en la educación superior.

Otro factor importante que incide en los avances que se puedan lograr en el campo de la ciencia abierta, es la formación de los docentes en esa vertiente. No será posible que se incentive la ciencia abierta entre los estudiantes y en los cambios que se deben realizar a la oferta curricular, si no existe una formación y motivación en ese campo entre los docentes (Alfaro et al., 2022, p. 106). Es necesario propiciar un cambio en estas personas para que luego sus habilidades, destrezas y conocimientos se reproduzcan en la docencia, la investigación y las acciones de extensión académicas. En todos esos espacios, la ciencia abierta tiene prácticas novedosas que el profesional de la información puede aplicar para lograr mejores resultados.

El trabajo con otros agentes de la comunidad que están ubicados fuera de la academia, es fundamental para impulsar la ciencia ciudadana; una práctica necesaria para compartir el conocimiento e involucrar a poblaciones en el campo de la ciencia abierta (Robinson et al., 2018). El profesional de la información tradicionalmente ha sido formado en ese campo, pues para trabajar en bibliotecas comunales, públicas y escolares, la comunicación con los grupos organizados y la inserción entre los grupos originarios cuyo conocimiento ancestral es vital para compartirlo en la biblioteca.

⁵ Se pueden ver los proyectos en este sitio: <https://ebci.ucr.ac.cr/proyectos-de-investigacion/>

El desarrollo de las tecnologías de la información y comunicación (TIC), en especial el impulso a la Internet a partir de 1980 y la consolidación del acceso abierto son dos corrientes que según Abadal (2021) contribuyeron a impulsar la ciencia abierta. El movimiento del acceso abierto ha brindado importantes contribuciones a las vías en que se obtiene, administra, divulga, produce y accede a la información, cambiando radicalmente las condiciones que existían en la mitad del siglo XX. La apertura al acceso a la información es un fundamento básico en la formación de los profesionales de la información y esto es posible al introducirlo en los cursos de Comunicación Científica.

Por otro lado, la IFLA Working Group, llamado IFLA Building Strong LIS Education (BSLISE) (IFLA, 2024, p. 7), ha destacado que las base de la profesión bibliotecaria es el ... “Acceso a la información, incluyendo el acceso abierto, como un bien público; la libertad intelectual; la gestión responsable de los datos la información y el conocimiento; y las tecnologías y la inteligencia que las impulsan son centrales para la profesión”. Es importante también destacar que el documento señala al “acceso abierto como un bien público” lo cual significa que el acceso debe ser sin barreras, sin APC y sin tasas por el acceso. También, este documento reafirma que “Los profesionales en información deben mirar más allá del campo de la bibliotecología, para desarrollar investigaciones e innovaciones interdisciplinarias para un compromiso profesional activo con campos afines a esta disciplina, así como con la sociedad en general, para lograr un mayor impacto tanto dentro del campo de la bibliotecología como más allá.” (p. 8). Por esto, la práctica interdisciplinaria del profesional en información debe ser parte de su educación.

La apertura en el nivel educativo superior puede ser transformadora porque podría ser un cambio cultural duradero en todos los actores de la ciencia abierta, tales como profesionales de información, investigadores, educadores y estudiantes. Es necesario subrayar que tal como afirman Mubofu & Mambo (2023, p. 7) existen varios temas en el curriculum de bibliotecología que este debe incluir; los autores ponen como ejemplo, “los temas como políticas y mandatos de acceso abierto, cuestiones de licencias y derechos de autor, y el uso de repositorios y herramientas de acceso abierto”.

Varias universidades públicas en la región Latinoamericana están aplicando la formación de profesionales de la información en el campo de la ciencia abierta. Un ejemplo destacado es la Universidad de Antioquia⁶, en Medellín, Colombia (Uribe, 2024). Esta ofrece dos cursos específicos en ciencia abierta a nivel de grado y posgrado para formar profesionales de la información con una preparación más acorde con las demandas

⁶ En este enlace se puede observar las acciones que desarrolla la Universidad de Antioquia: <https://www.udea.edu.co/wps/portal/udea/web/inicio/investigacion/ciencia-abierta>

sociales del siglo XXI. La Universidad de San Carlos, en Guatemala viene ofreciendo desde hace varios años, en el “Congreso Internacional Nuevas competencias para la edición y difusión de la información”, conferencias sobre ciencia abierta, así como la aplicación de al menos una tesis de grado sobre el tema. Otras universidades han propuesto que la incorporación del tema sea transversal en los planes de estudio, de manera que se analice en diferentes cursos de la formación bibliotecológica (Alfaro et al., 2022).

Metodología

El estudio fue realizado con el objetivo de conocer el estado de la educación bibliotecológica, a nivel universitario, en relación con la ciencia abierta en Costa Rica. Para ello realizamos un estudio de caso, aplicando una revisión sistemática de la literatura existente sobre el tema y posteriormente, analizamos los planes de estudio de las dos principales universidades públicas -Universidad de Costa Rica y Universidad Nacional- que forman a los profesionales en información en el país, las que también son las carreras más antiguas y consolidadas a nivel nacional. Incluidos en esos planes de estudio, están los programas de los cursos que se encuentran disponibles en sus páginas web, relacionados con la comunicación científica, publicaciones, información para el desarrollo y otros denominados seminarios, que varían sus contenidos de acuerdo con las demandas de la población atendida. De ellos escogí los más cercanos a la ciencia abierta para revisar los contenidos y la bibliografía, a fin de encontrar las coincidencias necesarias. Como complemento a esa revisión, realicé dos entrevistas cortas a cada uno de los directores de las escuelas de bibliotecología: la EBCI-UCR y la EBDI-UNA. Dichas entrevistas fueron enviadas y devueltas por correo electrónico con las respectivas respuestas en un corto tiempo. Como parte de las entrevistas, ambos directores me remitieron al sitio donde se encuentran las versiones más actualizadas de los programas, de manera que pudimos revisar la información exacta y vigente.

Tanto las entrevistas como la revisión de los planes de estudio y los programas de los cursos, fueron realizados con base en 4 categorías de análisis: 1. Importancia de la ciencia abierta para la formación de los profesionales. 2. Inclusión de prácticas de la ciencia abierta en los programas de los cursos. 3. Planes para modificar esos planes y programas en el futuro cercano. 4. Capacitación del personal docente de la Escuela. Todo el proceso se realizó en el mes de noviembre 2024.

Es importante aclarar que el estudio tuvo algunas limitaciones. En primer lugar, no realicé una comparación de los planes de estudio ni de los programas; solamente revisé los programas seleccionados, tal como mencioné anteriormente. En segundo lugar, no abarqué las cuatro universidades que imparten las carreras de bibliotecología en el país, pues seleccioné solo dos con base en los criterios anteriormente mencionados.

Del análisis de dichos datos, he logrado capturar los perfiles y orientaciones de ambos planes de formación para llegar a las conclusiones respectivas.

Resultados y discusión

La EBDI-UNA tiene su página web en el siguiente enlace⁷ y la EBCI-UCR se puede consultar aquí⁸. En estas se puede observar las características de la oferta académica, tanto a nivel de grado como posgrado. De su revisión somera se deduce el carácter tradicional que muestran estos planes de estudio, con lo cual se confirma lo que plantean Yew et al. (2022) y además, entre ambos planes se encuentran muchas similitudes. Analicemos esta situación desde dos perspectivas: la visión de las autoridades de cada escuela y lo que muestran los programas de los cursos.

El significado de la Ciencia Abierta para las autoridades

La ciencia abierta es un tema que se ha trabajado bastante en Costa Rica, principalmente desde la Subcomisión de Ciencia Abierta, del CONARE. En esta participa un representante de las Vicerrectorías de Investigación de cada universidad, pero no las escuelas de bibliotecología. Por esta razón, aunque los docentes e investigadores de las universidades pueden participar en las actividades realizadas, son relativamente pocos los que lo han hecho. Al respecto, el Director de la EBDI-UNA ante la pregunta sobre la importancia de la ciencia abierta en la formación de los profesionales en información, nos afirmó que...

En efecto, la ciencia abierta debe ser atendido en la formación de profesionales en bibliotecología como un eje transversal en los planes de estudios, con su abordaje en algunos cursos por medio de saberes integrales (contenidos, habilidades y formación ética). Po [Sic] lo que implica la comunicación científica para la democratización de la información, debería ser un eje de cada casa de formación superior, ya que por esencia todo profesional (en formación y formado) debería abogar por sus principios, prácticas y finalidades. (Comunicación personal, 19 Nov. 2024).

⁷ Escuela de Bibliotecología, Documentación e Información de la UNA (EBDI): <https://www.bibliotecologia.una.ac.cr/index.php/tematicas-de-interes/plan-de-estudios>

⁸ Escuela de Bibliotecología y Ciencias de la Información de la UCR (EBCI): <https://ebci.ucr.ac.cr/quienes-somos/>

Estas palabras demuestran una toma de conciencia sobre la importancia de la ciencia abierta, lo cual sin duda ha de redundar en las decisiones que se tomen en el seno de la escuela. No obstante, sabemos que estas son decisiones colegiadas que no dependen solo del Director, sino del equipo docente, de la Asamblea de la escuela y los demás órganos relacionados.

En relación con la respuesta del Director de la EBCI-UCR, sus palabras también reflejan la importancia que se le asigna al campo:

El tema de ciencia abierta es fundamental para el desarrollo de los procesos de investigación y comunicación científica, no es únicamente conversar de los principios FAIR, sino es necesario comprender todo el ecosistema que rodea al movimiento desde los recursos educativos abiertos, hasta el acceso abierto, laboratorios abiertos y código abierto, entre otros. Es indudable que el profesional en Bibliotecología debe estar al pendiente del movimiento y para las futuras generaciones de profesional [Sic] continuar construyendo este ecosistema desde las diferentes aristas laborales. (Comunicación personal, 13 Nov. 2024).

En otro plano, el director de la EBCI-UCR expresó que la escuela...

está realizando su modificación curricular, al hoy nos encontramos en la tercera etapa que es la construcción del mapeo de información de lo que se tiene y de lo que queremos que tenga el nuevo plan de estudios, utilizamos para eso varios documentos base (...) Aunque no hemos considerado el documento de Ciencia Abierta de UNESCO, es el momento preciso para considerarlo, ya que se espera iniciar la construcción de la nueva malla curricular en el 2025, por lo que lo podemos agregar para el análisis respectivo.

Esto adquiere mucha importancia porque se muestra una intención para modificar los planes de estudio, que podría llegar a cumplirse. Por otro lado, ambos directores hicieron hincapié en los cursos de actualización que ha recibido el personal docente. En el caso de la EBCI-UCR, el señor director me envió la siguiente información:

Por otra parte, a nivel individual varios de nuestros docentes, en total somos 30, posiblemente unos 10, han llevado cursos de open data, recursos educativos abiertos, gestión de datos de investigación, ciencia ciudadana y innovación abierta,, [Sic] en estos dos últimos se están construyendo proyectos de investigación con colegas de Brasil para el caso 1 y de Argentina para el caso 2 respectivamente. Se puede indicar que la EBCI puede estar

capacitada en 70% de su personal docente que tiene el tema en la mesa o sabe que existe y lo utiliza... (Comunicación personal, 13 Nov. 2024).

Se puede observar cierta contradicción entre ambas ideas que expresa en su texto, pues primero indica que un tercio de los docentes han llevado cursos de actualización sobre el tema, pero luego indica que calcula que un 70% están capacitados y al resto, no les interesa o no le dan la importancia que tiene. No obstante, podríamos valorar que quizás ese desinterés se da porque estas personas no comprenden el significado y los alcances del tema.

Para profundizar en esta arista, revisamos la ponencia de Guillén (2021), donde se hace un análisis de los retos que enfrenta la EBCI-UCR y se destaca que es necesaria “una formación docente sistemática y adecuada que permita la actualización permanente” (p. 10) y que se dé una actualización de los planes de estudio. Sin embargo, entre los campos del conocimiento especializado que se muestran como una prioridad, no existen ningún tópico relacionado con la ciencia abierta ni la comunicación científica.

No obstante, es destacable encontrar que existe una “Propuesta programática: Programa de formación docente 2022-2025” (UCR, 2022), en la que se describen varios cursos que se ofrecen a estas personas de la EBCI-UCR. Al revisar la propuesta se observa que esta no contempla ningún curso sobre temas relacionados con la ciencia abierta, excepto en un curso sobre “Tratamiento de información” (p. 26) que incluye dos subtemas sobre metadatos y marcaje XML.

Por su parte, el director de la EBDI-UNA fue más lacónico al decir: “En el 2024, dos académicos llevaron dos capacitaciones sobre ciencia abierta”. Pero también agregó al contestar otra pregunta:

La Escuela lleva dos trabajos finales de graduación defendidos en esta línea y para el 2025 hay uno de interés de la Escuela, el cual será de relevancia para la actualización del plan de estudios, ya que lo analizará la estructura actual y recomendará la inclusión de temáticas. Mi persona conversó con la estudiante postulante y le confirmé mi total apoyo desde la gestión administrativa para brindarle los insumos que requiera la investigación. Además, desde el personal docente existen compañeros que han ido participando y recibiendo formación en ciencia abierta. Tenemos el proyecto de la revista Bibliotecas y por los medios de comunicación digital en el 2023 y 2024 hemos efectuado compañías de divulgación para sensibilizar a la comunidad educativa. (Comunicación personal, 19 Nov. 2024).

Como una perspectiva adicional, en el estudio que realizaron Barboza y Ocampo (2020) sobre las necesidades de actualización de la población graduada de la EBDI, no se menciona el acceso abierto ni la ciencia abierta como necesidades de formación posuniversitaria. Esto sugiere que no existe conciencia sobre la importancia de estos temas entre los posgraduados de la EBDI.

Resumimos seguidamente la situación encontrada con respecto a la situación que presenta el personal docente de ambas escuelas en la ciencia abierta, como una subdisciplina que podría estar presente en ambos casos.

Figura n. 1 – Resumen de las opiniones de los directores de cada una de las Escuelas en Costa Rica

Escuelas	Importancia que le concede a la CA	Actualización del personal docente	Actividades complementarias
EBCI-UCR	Es fundamental	Una tercera parte capacitados	Dos proyectos de investigación en perspectiva
EBDI-UNA	Debe ser un eje transversal	Dos personas de 13 académicos	Tres trabajos finales de graduación

Fuente: Entrevista a cada Director y sitios web

Acerca de los cursos que imparten las escuelas

Después de una revisión detallada de los planes de estudio y las mallas curriculares de ambas escuelas (UNA, 2018; UCR, 2021), concluimos en que ambos planes de estudio son similares, aunque los títulos de los cursos varían un poco.

En el caso de la EBCI-UCR, los programas son del año 2024 pero la bibliografía no contempla material publicado en años posteriores al 2022 y más bien, la mayoría de los casos incluyen documentos de la década 2010 o más atrás. Existen tres asignaturas que podrían incluir contenidos de ciencia abierta: 1). Industria editorial y de contenidos (2021, grado), 2). Información para el desarrollo (2023, licenciatura) y 3). Referencia, pero al revisar los programas no encontramos ninguna evidencia respecto a temas relacionados con la ciencia abierta.

Al respecto, el Director de la EBCI-UCR nos indica que la ciencia abierta no está contemplada explícitamente en los programas ni en el plan de estudios:

El tema como tal se aborda en el curso de referencia, pero posiblemente no está explícito, por otra parte, también se abordan desde diferentes aristas como por ejemplo acceso abierto en Estudios Métricos, código abierto en Estructura de Bases de Datos, y Recursos Educativos abiertos en Bibliotecas Educativas, sin embargo como me indicas no está explícito [Sic] posiblemente, lo que indica que debemos integrarlo en nuestra mallas de forma más precisa, así como agregar otros contenidos del ecosistema de ciencia abierta (Comunicación personal, 13 Nov. 2024).

Al revisar el contenido de estos programas, efectivamente no hay ningún dato que nos ofrezca una evidencia sobre el estudio de la ciencia abierta en esos cursos. Tampoco se observa en los objetivos ni en la bibliografía de cada programa leído. Veamos algunos ejemplos.

El curso BI-5010 “Industria Editorial y de contenidos”, cuyo contenido podría enmarcarse dentro del campo de la comunicación científica, muestra una perspectiva comercial. En la última unidad, por ejemplo, menciona tres elementos que podrían coincidir con nuestra búsqueda: - Acceso libre y acceso privativo - Repositorios y autodepósito - Influencia del sector Empresarial. Estos se encuentran bajo el tema “tendencias de la publicación en la industria” lo cual también es contradictorio con los principios de la ciencia abierta ya que apenas menciona tímidamente el acceso abierto, pero no se acerca a sus postulados. El concepto de industria indica la transformación de materia para el consumo, pero no necesariamente es abierto y gratuito.

En la EBDI este curso se denomina BGC5300 “Producción editorial en la era digital” que es optativo para el nivel de licenciatura (UNA, 2018, p. 199). Al igual que en el caso anterior, el curso es totalmente técnico, no menciona la comunicación científica como el ámbito en el que se enmarca el tema de las publicaciones. Tampoco incluye elementos que pudieran relacionarse con las vías del acceso abierto o las herramientas digitales que existen para la intercomunicación de los productos editoriales; esto es, la interoperabilidad, los identificadores persistentes, los metadatos y otros.

En ninguno de los dos programas se incluye la revisión por pares abierta, que es la forma más transparente y eficaz para garantizar la calidad del contenido de las publicaciones (McKiernan et al., 2016). Tampoco incluye el estudio de los sistemas de información en acceso abierto que se han desarrollado en América Latina (Redalyc, SciELO, Latindex) desde 1997, como vías para facilitar el acceso a las publicaciones.

Dentro de este mismo plan de estudios, se encuentra un curso que se titula “Taller de recursos y materiales didácticos” que no incluye el término Recursos Educativos Abiertos (REA), la existencia de repositorios de REA, ni tampoco el término ciencia abierta,

de manera que muestra una omisión de estos contenidos. Su elaboración como su bibliografía no sobrepasa el año 2018.

En la EBCI también se imparte un curso similar, EA-0350 “Taller de materiales didácticos y medios audiovisuales”, pero tampoco su programa incluye contenidos relacionados con los REA u otros materiales en acceso abierto. Tampoco la bibliografía menciona nada al respecto.

Otras acciones implementadas en estas universidades

Fuera de las acciones que realizan ambas escuelas, otras instancias universitarias han impulsado actividades de formación, capacitación y entrenamiento en el campo de la ciencia abierta. En este caso, las Vicerrectorías de Investigación de cada una de las dos universidades analizadas, impartieron cursos para profesionales en bibliotecología que laboran en los sistemas bibliotecarios.

En el caso de la UNA, se desarrolló un proceso de capacitación de profesionales de la información del Sistema de bibliotecas universitarias de la UNA (SIDUNA). Este no solo incluyó una serie de cursos, sino que se realizaron gestiones para adecuar las bibliotecas universitarias a las prácticas de la ciencia abierta, entre las que profesionales elaboraron proyectos para innovar los servicios que tradicionalmente ofrecen las bibliotecas, de manera que estos se adecuaran mejor a las prácticas de la ciencia abierta. Así, se diseñaron proyectos de ciencia ciudadana, de inserción de los profesionales en las tareas de la investigación (embedded librarian) y otros.

En el caso de la UCR, también se llevó a cabo un programa de capacitación del personal del Sistema de Bibliotecas de la UCR (SIBDI) en el campo de la ciencia abierta. Este consistió en un curso de ocho semanas, impartido por personas de diferentes países iberoamericanos. No obstante, en este caso no incluyó otro tipo de actividades complementarias o de seguimiento, pero la Directora del SIBDI asegura que el curso sirvió para que las profesionales se involucraran en diversas actividades que promueve la Vicerrectoría de Investigación, como un grupo de trabajo sobre ciencia abierta o la discusión de la “Declaratoria de las universidades públicas por la ciencia abierta”.

Conclusiones y recomendaciones

La ciencia abierta no es una tendencia, es un marco filosófico que abarca el conjunto de prácticas que nos corresponde seguir en el siglo XXI. La tecnología es un apoyo y la

ciencia debe utilizarla para generar conocimiento más abundante, más aceleradamente y sobre todo de una manera más democrática e inclusiva.

Los profesionales de la información son parte de los agentes de la ciencia abierta, tal como lo indica la “Recomendación de UNESCO” y por ende, su formación a nivel universitario debe incorporar los principios, valores, prácticas y pilares de la ciencia abierta. Por esto, a partir del análisis de dos de los planes de estudio en bibliotecología que se aplican en Costa Rica, se pueden llegar a algunas conclusiones preliminares, dado que estas podrían ser el punto de partida para profundizar en el tema con la aplicación de mayores instrumentos. Sin embargo, la pincelada que ofrece este texto, nos permite brindar una idea del estado de los currículos y las falencias que muestran desde la perspectiva de la ciencia abierta. En primer lugar, la situación que se deduce de los planes de estudio y los programas de algunos cursos contrasta con las declaraciones de ambos directores de las escuelas, según lo mostramos anteriormente. Quizás, existen buenas intenciones pero estas ideas aún no han prendido en la mentalidad de la mayoría de los docentes, lo cual es considerado un elemento primordial para lograr la reproducción de las habilidades y los conocimientos que se desarrollen. Tal como dijo uno de los directores “como cualquier temática siempre hay docentes que no le ven la importancia al tema o piensan que no son áreas específicas de su trabajo”

En consecuencia, está claro que falta realizar mayores esfuerzos para lograr un impacto más profundo de los contenidos sobre ciencia abierta, en el currículum universitario que se usa para formar a los profesionales de información, así como en el cambio cultural de las personas docentes, a quienes les corresponde aplicar dichos cambios. Las actividades que constantemente desarrollan las Vicerrectorías de Investigación en cada universidad, deben ser aprovechadas, tanto para la autoformación de los docentes, como por los estudiantes y los profesionales en ejercicio. Se observa que se han realizado mayores esfuerzos en capacitación y formación de los profesionales en servicio en ambos sistemas bibliotecarios y que estas acciones han tenido un seguimiento en la práctica de esas personas. Esto no ha sido así, en el campo docente y menos aún en la investigación.

Tampoco en los planes a corto plazo se logra vislumbrar acciones que pretendan desarrollar la ciencia abierta en la formación de profesionales. En la documentación revisada no existen trazas que dejen en evidencia acciones concretas.

Ante este panorama, considero importante recomendar:

1. Que se diseñe un plan de capacitación de docentes en cada una de estas escuelas para que esos conocimientos, habilidades y destrezas se puedan reproducir entre los estudiantes que serán los profesionales en información de la próxima década.
2. Que los docentes se integren efectivamente a las actividades que realiza la Subcomisión de Ciencia Abierta en las cinco universidades. Dichas actividades son muy variadas y tienen como objetivo formar a las personas universitarias que trabajan en diferentes ámbitos.
3. Que se incluyan los principios, valores y prácticas de la ciencia abierta en los planes existentes para actualizar los currículos, de manera que se tome la decisión de incluir cursos específicos sobre el tema, se incluyan estos de manera transversal o ambos.

Cualquiera de estas acciones irá en beneficio de la formación de profesionales en información, para que adquieran habilidades y actitudes positivas hacia la inclusión, la diversidad y la democratización del conocimiento.

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Copyright in the context of scholarly communication: experience report on the LIS curriculum in Brazil

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Abstract

In this essay, we present an Experience Report on a course focused on copyright in the context of scholarly communication that we offered in a Brazilian LIS postgraduate program. As a justification for this course, we mention the recent changes in the debates on copyright in the open access movement, which require a deeper understanding of its legal foundations. Finally, we present 14 key themes that can be used by LIS course instructors anywhere in the world to offer a similar course. The topics mentioned for teaching the subject can be considered based on the following general subjects: theoretical and historical bases on copyright, theoretical and historical bases on scholarly communication, copyright in the context of information professionals and various topics related to copyright in science. The aim of this work is twofold: to foster discussion on how to incorporate copyright education into the scholarly communication in LIS curriculum and to contribute to the preparation of specialized professionals for what we anticipate being the next phase in open access debates: the copyright reform. We believe that the course provides a broad and coherent framework for teaching this subject. In our experience, students progressed rapidly from a very low level of competence in copyright debates to a higher level of understanding.

Keywords: copyright, scholarly communication, LIS curriculum, open access, legal reform

Introduction

There is a major challenge when it comes to the place of scholarly communication in the LIS curriculum, which is to think about the place of copyright in this conversation. We all know that copyright directly interferes with the scientific editorial process and access to knowledge. And, ultimately, in its entire communication process; however, the debates on the foundations of intellectual property fall short of such scope and the truth is that we still study and teach this subject very little. In this text, we argue that copyright should be considered an integral part of the conversation about scholarly communication in the LIS

curriculum and should be taught in greater depth. Finally, we will present an Experience Report on how we did this in Brazil.

The justification for this statement is a structural change that we have observed in recent debates regarding Open Access (OA) to scientific publications. This change requires a complex in-depth understanding of copyright that was, to a certain extent, dispensable. First, we will address this change and then present our Experience Report, including a proposal of 14 essential topics to be discussed in the classroom and the essential bibliography to discuss them.

The structural shift in the debates on open access strategies is occurring as follows: since the BBB declarations (Budapest, Bethesda and Berlin), the only OA strategy has been the use of public licenses, especially Creative Commons licenses. This can be easily seen in books by notable OA advocates such as Willinsky (2006) and Suber (2012). For example, note how Suber argues that there is no need for legal reform for OA to advance: “OA is already lawful and doesn’t require copyright reform” (Suber, 2012, p. 44). This position is reiterated in several other parts of his influential book.

One result of this is that the use of public licenses eliminates the need for in-depth debate on the fundamentals of copyright law. Public licenses are much simpler to understand than copyright itself, and this is precisely one of their advantages. However, this advantage also brings with it a dysfunction: as a community of OA advocates, we lose the opportunity to hold an in-depth debate on the fundamentals of copyright, because we do not even know what these fundamentals are. John Willinsky’s 2006 book, for example, has a chapter dedicated to copyright, but it is limited to presenting Creative Commons licenses. It is as if, for the OA movement, the topic of copyright was limited to what licenses are. However, the truth is that licenses are just a footnote in the complex world of copyright.

There are numerous analyses of the success and failure of the OA movement, many of which conclude that, despite enormous efforts, the number of open access journals remains smaller than one would like (Green, 2017) and commercial journals are beginning to embrace OA as a new business model. This view that the license-based strategy has failed is one of the justifications for structural change in the most recent debates.

Thus, in recent years, the debate has moved towards the need to discuss copyright reform, given the perspective that the strategy based on licenses, although celebrated, is not achieving the expected result. In Brazil, the work of Couto (2022) defended the need to discuss the reform of the copyright law based on an in-depth debate on the foundations of the protection of scientific works and the developments arising from the Sci-Hub case.

From an international perspective, some prominent authors are also defending this view, seeking ways to reform the law as a strategy of the OA movement. For example, Peter Baldwin, in the book *Athena Unbound: Why and How Scholarly Knowledge Should Be Free for All* (2023), began to advocate that copyright law be reformed for scientific works, based on the idea that such works should be considered “works for hire” and that their ownership should belong to the scientific institutions that contracted the authors. In this way, the institutions could negotiate more strongly the publication of articles, ensuring that all would be published in open access.

However, perhaps the most symbolic change of position is that of John Willinsky, who in the book *Copyright's Broken Promise: How to Restore the Law's Ability to Promote the Progress of Science* (2023) also advocates law reform as a new strategy to promote OA. This is a major shift in position from his earlier book, from 2006. This work is very symbolic because Willinsky is a notable advocate of OA, responsible for creating central infrastructures for the advancement of the movement. And yet, he now understands that the efforts have yielded unsatisfactory results. In this book, the author advocates that copyright be reformed to consider scientific works as a type of work separate and distinct from other works (something that does not happen today, since copyright considers scientific works as a type of literary work) and that a specific legal regime be created for them. In this new legal regime, all scientific works would be published with a compulsory license that would guarantee open access. According to the author, this is a “realistic proposal”, because it allows the science publishing market to continue to exist, but ensures that, regardless of the wishes of the parties involved, the works are made free after a brief embargo.

In Europe, legislative debate on copyright reform is also being strongly encouraged, as exemplified by the Knowledge Rights 21 (KR21), which brings together copyright experts to discuss changes to copyright laws with the aim of promoting open access. A notable example is the debate on Secondary Publishing Rights (SPR), which would allow authors to retain copyright and allow scientific articles to be republished (or made available again) in institutional repositories without the need for embargo (zero embargo). In other words, it is a legal device that allows Green Open Access independently of the authorization of commercial publishers. According to a recent report (Tsakonas et al., 2023), SPR is already applied in seven European countries, but now needs to be harmonized from the point of view of European Union community law.

What all these proposals have in common is that they are based on deep and complex discussions about the foundations of copyright law. It is through legal discussions that we will find a path for the future of open access, because only then will it be possible to think about proposals for legal reform. For this reason, teaching copyright in the context of

scholarly communication has become indispensable.

Although it is obvious that Open Access (especially Diamond Open Access) is a success story in the Global South, it is necessary to consider that scholarly communication occurs within a global system, and that any local success is counterbalanced by the global dominance of commercial journals. Therefore, even for us in the Global South, who live daily with a successful open access model, copyright reform is essential. According to the *principle of national treatment*, of the Berne Convention, local copyright laws are applied locally even in cases where the copyright holder is a foreigner. Thus, a reform of copyright law carried out in the Global South would guarantee access to works produced in the Global North, advancing open access where it is not yet a complete success.

The primary objective of this essay is to provide a discussion on how to implement copyright education in the context of scholarly communication in LIS curricula. The secondary objective is to contribute to the preparation of specialized personnel for what we believe to be the next phase of the debates on open access, which is copyright reform. We do this through an experience report that narrates how we teach this topic in Brazil. In addition, we provide recommendations for implementing a similar curriculum in other parts of the world. According to Mussi et al. (2021), experience reporting is a path to learning that is based on the critical presentation of scientific and professional practices.

Experience report

We began teaching copyright in the context of scholarly communication in a postgraduate program in Brazil in 2023, with a second edition held in 2024. The first author of this article has worked on copyright for many years, including experience in managing scholarly communication at a large Brazilian university. The second author is a copyright specialist working in the field of LIS in Brazil. Both authors are members of the Brazilian Commission on Copyright and Open Access of the Brazilian Federation of Associations of Librarians, Information Scientists and Institutions (FEBAB).

This course is a rare example in the Brazilian LIS curriculum, which rarely comprehensively discusses these two topics. In general, copyright is not taught in depth, even in Law courses. In the case of LIS courses, the topic of copyright is most commonly offered as a specific, quick, and fleeting topic, in more all-inclusive scholarly communication classes, but without delving into its fundamentals. However, the number of researchers dedicated to studying copyright in the context of LIS is growing in the country, which may change this scenario of scarcity in the coming years. Therefore, we believe that our experience can be useful to other professors who want to offer similar courses at their universities.

The objective of this course is to enable students to answer the following question: *what is the role of copyright in regulating scholarly communication?* We believe that by knowing how to answer this question, students will become better-qualified professionals to work in the field of scholarly communication. This may include the future participation of these students in likely upcoming debates on legal reform.

14 Key themes about copyright and scholarly communication

Here are 14 key themes to be addressed in a curriculum that aims to discuss copyright in the context of scholarly communication. Each of the topics can be addressed in an individual class lasting approximately three hours. The order of the first 6 topics must be followed exactly because they follow a logical progression that will help students understand throughout the course. The order of the remaining 8 topics can be changed without affecting students' understanding. The course is designed to be delivered in 15 lessons, lasting 15 weeks (one lesson per week), with the last lesson being reserved for an oral presentation by the students. The assessment is carried out through this oral presentation, the submission of an essay of up to 10 pages and the participation of students throughout the classes. We suggest that students read the base text before classes, to facilitate discussions.

Thus, in each class, a basic text may be suggested to students, but the instructor must understand all the suggested bibliographies for each topic so that he or she can synthesize them into comprehensive and coherent lessons. This can be a challenge, as this bibliography is rarely presented as a cohesive set and a high degree of interdisciplinarity may be necessary for its full understanding. However, we believe that this is the best way to approach this topic: respecting its essential complexity and interdisciplinary nature.

The topics were chosen based on four sets of subjects: 1) theoretical and historical bases on copyright; 2) theoretical and historical bases on scholarly communication; 3) copyright in the context of information professionals; and 4) topics related to copyright in science. Thus, we were able to move from a general training related to copyright and scientific communication to more specific topics related to the work of information professionals (especially librarians and scientific editors) and intellectual property in science. The last two sets of topics (i.e. copyright in the context of information professionals and topics related to copyright in science) can bring up secondary subjects, which are necessary for professional practice and which are required at the time the class takes place. This way, if at the time the subject is offered there is an important local debate, the professor can include it here.

Theme 1: Information as an object of rights

The course should begin with a general introduction to Information Law, discussing the concepts of information for LIS in comparison with legal concepts (e.g. Bygrave, 2014). Over the years, a multitude of laws have emerged intending to regulate information and it may be interesting to briefly discuss this history, such as access to information laws, personal data protection laws, etc. For this, we use the book by Rowland and Kohl (2017) as a basis, but there are probably many works available for a national reading on the subject. In addition, a little information regulatory theory may be interesting and, therefore, we strongly suggest discussing Lawrence Lessig's (2006) classic text on this topic, *Code 2.0*, with special attention to his "Pathetic dot theory". Students will easily notice that the foundations of information regulatory theory presented by Lessig are currently being debated in the context of the regulation of social media companies. Copyright should therefore be presented as one of the topics of information regulation – perhaps the oldest of them – that is present in almost all debates of this kind. For example, in recent discussions on the regulation of social media, the issue of remuneration for journalistic companies has been brought up in several parts of the world. Some general topics on Law can also be presented in this class, such as the difference between legal regimes, the hierarchy of laws, and the sources of law (doctrine, laws, treaties, case law, etc.).

Theme 2: History, theories, and functions of scholarly communication

In a single class, we aim to present a historical and theoretical overview of scholarly communication so that students can have their first contact with the topic. "Scholarly communication" should be presented as a subject in the LIS curriculum, and for this, we recommend a general overview of classic texts. The history of how this subject is discussed can vary from country to country, including the name it receives: scholarly communication, scientific communication, scholarly publishing, etc. It is important to connect global history to local traditions. Next, we discuss the history of scientific journals. For this topic, the recent book by Aileen Fyfe et al. (2022) is an essential work – we focus the discussion on the introduction and chapter 1, but we recommend that students read the entire work if possible. Scholarly communication should also be discussed in the context of the history of epistemology, with special attention to Francis Bacon's book, *New Atlantis*, and the use that the Royal Society made of the concepts presupposed in the notion of "Solomon's House" that is presented in the work. From this point on, the history and theory of scholarly communication begin to interact more clearly. Therefore, we suggest that the discussion of the text by Shapin and Schaffer (1985) be included, with special attention to the topic "Prolixity and Iconography" in Chapter II, which discusses the key concept of "virtual testimony". Then, the theory of scholarly communication will take up the rest of the class, which will be addressed in four points: a) communication theories that bring inherent epistemological aspects (e.g. Luhmann, 2000); b) epistemological theories

that bring inherent communicational aspects (e.g. Fleck, 1981); c) models of scholarly communication (e.g. Garvey & Griffith, 1972); and d) functions of scholarly communication (e.g. Roosendaal & Geurts, 1997).

Theme 3: The market and the economy of scholarly communication

This class is a direct continuation of the previous class because it will also discuss the history of scholarly communication but will focus on its economic and market aspects. From what moment and through what forces did scholarly communication become a highly profitable market? Who are the main players in this market and how does it function today? To answer these questions, we begin with a historical introduction to a key moment in the construction of this market, which is the publication of Vannevar Bush's report, *Science: The Endless Frontier* (1945), shortly after the end of World War II. This report had a significant impact on the scholarly communication industry since one of its recommendations (indicated in Chapter 5) was the publication of research that had previously been embargoed. The large number of resulting publications moved the scientific publishing market, which began to grow unstoppably. To contextualize the impact of this report, we suggest discussing the text by Greco (2019), which tells this story accurately. The case of Elsevier can be used as an example to demonstrate the turnaround that occurred in the market after the end of the war – for this, the historical text that the publisher wrote about itself can be addressed (Elsevier, 2005). The rest of the class will focus on analyses of the current market, and we do so based on the texts by Eger and Scheufen (2018) and Larivière et al. (2015). It is important to report on these topics: a) the market dominance exercised by the “big five”; b) the profit rates of these corporations; c) the evolution of the prices of scientific journals in comparison with the evolution of other price indexes; d) the serials crisis, etc. Another relevant subject that should be considered is the most recent debate about the available business models, with an emphasis on the contrast between the subscription model and the model based on APCs – there is a large body of literature on this, and we suggest choosing the most recent possible since the debates in this field are evolving rapidly. Finally, to highlight the dominance of the current oligopoly in this market, we talk about the aggressive approach of corporations to maintain their dominance, whether through mergers or acquisitions (we use the case of the purchase of Mendeley by Elsevier as an example).

Theme 4: Copyright: an introduction

Finally, the course will directly address the fundamentals of copyright in an introductory lecture. We strongly recommend that this introduction be made concerning local copyright law – therefore, it is important to choose an introductory text by a national author. However, we also recommend that the general, and even universal, aspects of copyright be emphasized (such as its structure) so that students can read foreign texts and adapt these doctrines to the law of their country. We use Brazilian and international jurists

simultaneously. In other words, the lecture should clarify that there are general aspects of copyright theory that are applicable worldwide, but that any international text on the subject should always be compared to local law to know what applies and what does not directly apply. This may take some time and, depending on the professor's training, it may be quite a challenge, since it requires legal repertoire regarding comparative copyright law (knowing the differences between local law and the laws of other countries). In any case, we suggest the following general structure for the class, which we believe is applicable in any jurisdiction: a) intellectual property: differences between copyright and patent law; b) legal regime: differences between copyright (common law) and *droit d'auteur* (Roman-Germanic law); c) history of copyright (from royal privilege to copyright laws, including a history of all national laws that your country has had); d) internationalization: a general discussion on the role of the Berne Convention and the TRIPs Agreement; e) general structure of copyright, which should include notions such as the *subject of the right* (author and owner), the *object of the right* (protected works and works excluded from protection), the *content of the right* (the list of property rights and moral rights to be exercised by the subject) and, finally, the *transfer of the right* (including publishing, assignment and licensing contracts). Any textbook on copyright will provide relevant explanations on all four of these elements (*subject, object, content, and transfer*). In any case, it is up to the instructor to select this text, based on the authors and the law of his/her country.

Theme 5: History of scientific works protected by copyright

Once the foundations for understanding copyright have been established, we can begin a more focused study to understand how this right applies to scientific works. We begin by answering the following questions: Why are scientific articles protected by Copyright Law and not by Patent Law? How does industrial property law exclude scientific knowledge from this list of protection? How did copyright law include “scientific works” in its list of protection? The literature on this topic is scarce, but the professor will find useful references in the works of Merges (1996) and Miller (2008), which serve as a basic text for the class. There is also a recent French book written by Gabriel Galvez-Behar, *Posséder la science: la propriété scientifique au temps du capitalisme industriel* (2020), which we enthusiastically recommend. To begin, it is necessary to review some basic principles that differentiate patent law from copyright – by doing so, students will understand that scientific knowledge (discoveries, theories, etc.) cannot be patented. The exclusion of patentability of scientific principles is what led certain authors of scientific works to seek legal protection in copyright, despite these rights having been originally conceived to protect only works of art. However, copyright can only protect the literary or artistic form of scientific works, and not their content – that is, it protects only the less scientifically relevant aspects of the work. All basic scientific knowledge enters the public domain from the moment of its publication, as it is not patentable and is not protected by copyright law. This statement may

sound counterintuitive, but it is true. Since the protection resulting from copyright was not considered satisfactory by some, an international debate arose about the need to create a “scientific property”. This debate serves as a basis for demonstrating the precariousness of copyright protection for scientific works – which can be done through some primary sources, such as Barthélemy (1922), Ruffini (1923), and UNESCO (1954). These historical and theoretical facts demonstrate that the oligopoly of the science publishing market is based on precarious copyright protection, which does not protect the content, but rather the form and which, through this protection of the form, controls access to the content, which in theory is in the public domain.

Theme 6: Copyright and scholarly communication: a conflicting relationship

The result of the precarious copyright protection of scientific works has resulted in what we call the “doctrine of assimilation of scientific works by literary works,” according to which scientific works are only protected by copyright law as literary works, which leads the jurist to reduce the functions of scientific works, considering them only literary works. The doctrine of assimilation results in a multitude of conflicts, contradictions, and antinomies, which should be discussed in an introductory manner in this class. These aspects were presented in the doctoral thesis of the second author of this text, which was supervised by the first author (Couto, 2022). Some bibliographies in English can also be used in class to address this issue, such as Peukert and Sonnenberg (2017), Centivany (2011), Hilty (2007), Reichman and Okediji (2012). However, without a doubt, the work that addressed the subject in the greatest depth is the book by French jurist Xavier Strubel, *La protection des œuvres scientifiques en droit d’auteur français* (1997). The texts discuss the idea/ expression dichotomy, the distinct modes of production of science and literature, the legal nature of the protection of so-called “factual works” (which would include scientific works), and the main resulting antinomy: the impossibility of applying the subjective criterion of originality (a requirement for the protection of works under copyright law). It is also interesting to address the definitions of “scientific work” used by jurists, contrasting these definitions with those presented in previous classes regarding scholarly communication. Finally, it is important to analyze the application of each of the property rights and moral rights in the case of scientific works, since in each of these rights there are bound to be situations of misapplication (here, it is important to bring up situations of difficulties experienced in everyday life – reports of this nature can be found on scientific publishers’ blogs, as well as in many publications on the Scholarly Kitchen blog). These misapplications have led experts such as Elizabeth Gadd (2017) to state that there is a “cognitive dissonance” between the culture of copyright and the culture of scientific publishing.

Theme 7: Copyright in the context of digital libraries

Up until the previous class, the course dealt with general and very basic topics, including the theory and history of scholarly communication and copyright. From here on, the topics deal with more specific subjects and can be adapted more freely by the professor. We began by discussing the application of copyright in so-called “digital libraries”. This debate is relevant for two reasons: first, the course offered is part of the LIS curriculum, and it is likely that many of the students are librarians or are training to work as librarians in the future; second, some authors consider institutional repositories of scientific works to be types of digital libraries, which connects this topic to the general subject of the course. This class will cover the knowledge required for so-called “copyright librarians”, that is, the professionals responsible for managing copyright in a library and who is becoming an increasingly common position in libraries around the world. The bibliography to discuss this topic includes Tammaro and Salarelli (2008), Banerjee and Reese (2019), Frederiksen (2016), and Maurel (2008). The class can be structured as follows: a) definitions and concepts of digital libraries; b) relevant topics of copyright in digital libraries, such as the difference between publishing and communication to the public; c) institutional policies for copyright management; d) access control techniques; e) licensing agreements in the context of acquiring works for the library; f) the role of DRMs and similar.

Theme 8: Limitations and exceptions to copyright

This is undoubtedly one of the central themes of this discipline because it presents one of the most relevant legal foundations: the notion that copyright is not an absolute right and that it can be subject to limitations. In other words, there are situations in which works protected by copyright can be used freely by users, without these users having to pay or request prior and express authorization from copyright holders and without this use being considered an infringement of copyright. This topic is very complex because it deals with very opaque boundaries and requires a lot of theoretical debate. However, mastering it is essential for any information professional who deals with works protected by copyright. If we had to choose just one topic to teach, this would be the one chosen, given its current relevance. To discuss this topic, we used a guide that we co-authored and that was published by the Brazilian Federation of Associations of Librarians, Information Scientists and Institutions (FEBAB), called *Guia para bibliotecas: direitos autorais e acesso ao conhecimento, informação e cultura* (Couto et al., 2022). However, here again, the debate must be conducted concerning the local copyright law. Although there may be a common theory and basis, the law of each country may provide different rules for limitations and exceptions to copyright. The same textbook used in topic 4 likely contains a chapter on limitations and exceptions to copyright, which can be used here. If this is not the case, the professor will need to do some research to find a suitable reference. In any case, a good place to start is to look at the law of your country to find out what the limitation system is,

whether it is *fair use*, *fair dealing*, or whether there is a list of *limitations to copyright*. Based on the format of the limitation, it is possible to find a suitable bibliography. One thing is important to note: In law, there are many possible approaches and interpretations for the same topic, and Limitations to Copyright constitute a real arena for these interpretative disputes. Therefore, care must be taken when selecting the text to be used in this class. Texts that present more rigid and unfavorable views of users' rights should be avoided because they constitute an approach that modern doctrine and case law tend to reject. Currently, more balanced views are favored, which seek harmony between the rights of authors and the rights of users. A recommended text for introductory reading, although focused on the case of English-speaking countries (especially the USA), is the book by Aufderheide and Jaszi (2018), *Reclaiming Fair Use: How to Put Balance Back in Copyright*. There are other introductory texts on the subject, which are more comprehensive, including the doctrinal views of other countries, such as Chapdelaine (2017), Okediji (2017), and Balganesh et al. (2021). It is also worth highlighting the need to discuss the Three-Step Rule of the Berne Convention and all its importance for the international debate on copyright limitations – here, we strongly recommend the text by Geiger et al. (2010).

Theme 9: Marrakesh Treaty and accessibility

This topic is a direct continuation of the previous lesson, and it is recommended that it be presented next. The Marrakesh Treaty is the first international human rights treaty to create a limitation on copyright in international law, applicable to all signatory countries as a minimum requirement for the rights of people with visual impairments and other difficulties in accessing printed texts. Thus, for the treaty, the rights of people with disabilities become a limitation on copyright, as it allows protected works to be converted to an accessible format through adapted reproduction. This treaty is relevant to libraries in general, which are considered Authorized Entities, that is, entities that can act to convert works to an accessible format. It is also relevant to academic and scientific libraries because scientific works are among those that can be converted to a format accessible to people with disabilities – therefore, there is no longer any justification for a topic of such relevance to be disregarded by any information professional, especially those who deal with scientific knowledge. The treaty also introduces the notion of Beneficiaries, providing a comprehensive concept that includes not only visually impaired people but also people with other difficulties in accessing printed text (such as people with dyslexia or amputees who cannot hold a book). We recommend using the text *The Marrakesh Treaty: an EIFL Guide for Libraries* (2015), which has been translated into several languages and is available in open access on the EIFL website. Additionally, we recommend that the lecturer check the current status of the treaty in his/her country, to find out whether it has been signed, ratified, and regulated. It is also possible that the national law already contains some provision for limiting copyright in favor of visually impaired people – if this is the case, it is worth discussing how and whether

the Marrakesh Treaty will modify this previous provision in the law (for example, in the case of Brazil there was a provision for conversion to an accessible format, but only for blind people, so the Treaty expanded the list of beneficiaries previously provided for by law).

Theme 10: Controlled digital lending

Another interesting topic that can be addressed is Controlled Digital Lending (CDL), applicable to any type of work in a library, including scientific works. This topic has been the subject of intense debate around the world, as it is an innovative concept of library lending that is being applied in various contexts. As a fundamental and indispensable text, we recommend the article by Hansen and Courtney (2018), *A White Paper on Controlled Digital Lending of Library Books*. Basically, in CDL, the library digitizes its collection to lend it digitally; each item is then loaned through a digital substitute, respecting, in particular, the relationship between the number of copies of the work in the collection and the number of simultaneous loans. With this, it is expected that digital lending occurs in a *controlled manner*, without interfering with the normal commercial exploitation of the work or causing unjustifiable harm to the legitimate interests of the authors (or, at least, that its impact is identical to that caused by conventional lending). The topic is also an important opportunity to discuss a fundamental concept of copyright law, which is the concept of copyright exhaustion (also called the “first sale doctrine”) – this topic can be discussed based on the book by Péter Mezei (2018), *Copyright Exhaustion: Law and Policy in the United States and the European Union*. Finally, it should be noted that some librarians have stated that there is an important relationship between the concepts of Interlibrary Loan (ILL) and Controlled Digital Lending (CDL). Evidence of this is the creation of a working group at NISO, formed exclusively to discuss technical standards for the relationship between these two concepts, which resulted in the document *NISO’s Interoperable System of Controlled Digital Lending* (which recently underwent public consultation). ILL and CDL can be used together as a mechanism for accessing scientific publications, which is why this topic should be treated with great attention in the course.

Theme 11: The open access movement: an introduction to public licenses

Although we affirm that a structural change is taking place in the debates on the paths toward open access to scientific publications in the world, this does not mean that traditional paths are irrelevant and do not deserve to be debated. Quite the opposite. That is why, in this topic, we dedicate space to present the history of debates on the open access movement, with an emphasis on its most legal aspect: the use of public licenses as an openness strategy. Topics such as the types of open access (the traditional color classification scheme) and the many infrastructures created over the years to foster openness should be discussed here. Many classic texts can be used for this class, since there is a large literature on the use of public licenses by the open access movement, such as Suber (2012), Willinsky

(2006), etc. From a legal perspective, it is important to select texts that explain the concept of licenses in the context of copyright transfer – in general, copyright textbooks provide a good explanation of the subject (the same text used for topic 4 will probably work). However, in this area, the most classic book is that of Lawrence Lessig (2004), *Free Culture: The Nature and Future of Creativity*. It should be noted that, as demonstrated by Couto (2022), Creative Commons licenses were presented by Lessig simultaneously with the Budapest Declaration. The simultaneity of these two debates may have contributed to the fact that, faced with many possible strategies, activists in the open access movement chose public licenses (and in particular the Creative Commons license) as their main tool for promoting openness. This class should also make a connection with the debate presented in the introduction of this text, which is the need for a change in strategy discussed by Couto (2022), Willinsky (2023), and Baldwin (2023).

Theme 12: Scientific authorship: credit, responsibility, and original ownership of rights

The topic of authorship is very relevant to the two disciplines covered in this course: copyright and scholarly communication. From the perspective of copyright, authorship can define the original ownership of copyright; from the perspective of scholarly communication, authorship defines precedence, credit, and responsibility. However, we can safely say that the concept of authorship and the criteria for its attribution are not identical for the two fields, with authorship constituting yet another example of antinomy or cognitive dissonance between the cultures of scientific publishing and copyright. Regarding the misapplication of the notion of “authorship” in science, we recommend first working with the text by Drummond et al. (1997), which serves as the basis for much of the subsequent discussion, including debates about the taxonomy of authors (e.g. CRediT). But there is much to discuss here, including questions about hyperauthorship (Cronin, 2001). To serve as a basic text for the class, the book organized by Biagioli and Galison (2003) remains indispensable and up-to-date. We recommend the chapter by Jaszi and Woodmansee, which deals specifically with the inconsistencies of scientific authorship in copyright. Some authorship criteria established by deontological standards can be compared in conjunction with the definitions of “author” in copyright law, such as the scientific authorship criteria of the ICMJE (International Committee of Medical Journal Editors), the COPE (Committee on Publication Ethics), Nature, in addition to the *authorship determination* scorecard of the APA (American Psychological Association). We also recommend comparing the authorship criteria adopted by the LIGO Scientific Collaboration (LSC), since they represent a borderline case that contributes to the occurrence of hyper-authorship.

Theme 13: Plagiarism and scientific integrity

This class is directly related to the previous class, which is why we recommend that it be taught in sequence. This topic can be approached from three perspectives: a) plagiarism from a historical point of view; b) plagiarism in copyright law (legal aspects); c) plagiarism in deontological codes (ethical aspects). For a comprehensive theoretical discussion, we recommend the book by Richard A. Posner (2007), *The Little Book of Plagiarism*. The history of plagiarism refers to the metaphorical use of the term, which should be explained based on the famous poem by Martial (poems I, 29 and I, 52). A brief discussion on the use of metaphors in criminal laws can be carried out. For the second point, the professor will need, again, to make use of local references, since “plagiarism” and the crime of copyright infringement can be defined differently from one jurisdiction to another. For example, in Brazil, the law does not mention “plagiarism” (this is an undetermined legal concept). The law only mentions “copyright infringement crime”, which is a much broader concept, a type of skeleton criminal legislation. The last point may be the most complex to discuss, since “plagiarism” is a concept richly defined by ethical standards. We recommend making extensive use of the material produced by COPE (Committee on Publication Ethics), which includes guides and infographics on how a scientific editor could act when faced with suspicions of plagiarism. It is important to mention the possible types of plagiarism; these types may vary from author to author, but generally include intentional plagiarism, unintentional plagiarism, direct plagiarism, indirect plagiarism, self-plagiarism, etc. A crucial issue is the differentiation between plagiarism, parody, and pastiche, which should be carefully discussed. It is worth noting that this is a point of disagreement with the codes of ethics and the legislation, since, in general, the laws do not consider parodies and pastiches as cases of infringement (they are uses permitted by *fair use*), but the codes of ethics think otherwise. Another legal aspect to be discussed here is the difference between “plagiarism” and “illicit derivative work, made without authorization”. Finally, it should be mentioned that the use of anecdotes is quite instructive and makes the class more interesting for the students. To this end, we strongly recommend that the professor spend a few hours studying famous and recent cases of plagiarism that were reported on the website Retraction Watch. This website is one of the subjects of this class since its mission is to publicize articles that were retracted from scientific journals, many of which were due to plagiarism.

Theme 14: Piracy and sharing of scientific works: the Sci-Hub case

We dedicate this last class to the debate on the piracy of scientific works, with special attention to the Sci-Hub case and the impact that this site had on the entire academic publishing system, including commercial and open access journals. As in the previous class, piracy can be discussed from multiple points of view. The term is a historical metaphor for pirate ships and cargo theft, but its contemporary use is much broader and has an advertising and

propagandistic character. It is a term used by the content industry as a driving force behind its enforcement work. In general, it is not a term defined by law; like plagiarism, it is a legally undetermined concept, since the law generally prefers to speak generically of “copyright infringement”. To discuss piracy in the context of scientific publications, we recommend the book organized by Karaganis (2018), *Shadow Libraries: Access to Knowledge in Global Higher Education*. There is abundant discussion of the Sci-Hub case in Karaganis’ book, but more up-to-date material can be found in recent literature. The case of Aaron Swartz should be presented in depth and respect; we also recommend discussing his *Guerilla Open Access Manifesto* (2008). Björk (2017) discusses the inclusion of piracy as a specific type of open access, the so-called “black open access”. The industry’s attempts to respond, such as the website “Where can I share it?”, also need to be discussed. To discuss the scope of the use of piracy, we strongly recommend including the article by Himmelstein et al. (2018). This topic is very complex and may require a certain repertoire from the professor, especially to be aware of the lawsuits filed by publishers against piracy websites – to compose this repertoire, we recommend searching for opinion pieces and recent news on this topic on the following websites: Scholarly Kitchen, TorrentFreak, and Techdirt.

Final considerations

The general outline of topics presented in this work was tested in 2023 and is being repeated in 2024, so we can safely say that they work well as a course aimed at the joint theme of copyright and scholarly communication. The complexity of the topics and the great interdisciplinarity involved in the discussions were not an obstacle to the students’ understanding, who, in general, were able to follow the classes without major problems. In all classes, one of the students was responsible for making comments on one of the complementary texts, so we were able to observe a great evolution throughout the course. At the end of the course, the students submitted an original article on copyright and scholarly communication and gave an oral presentation, which resulted in many interesting debates. In conclusion, we understand that the course offered was well received by the students, that the order of the topics facilitated their understanding of such complex subjects, and that we are filling an important gap in the training of human resources in Brazil. We also understand that our experience can be replicated in other LIS courses in Brazil and around the world, focusing on the need to deepen our understanding of copyright for what should be the next phase of the open access movement: the fight for legal reform.

We believe that our approach to expanding the debate on copyright in the context of scholarly communication can help expand social justice. The social function of copyright is to promote science and culture, not to restrict them. One way to materialize this social function is by expanding limitations and exceptions, but also by creating new legal devices that can make this law more balanced. With greater balance and better trained professionals, cases of

“copyfraud” tend to decrease. According to a popular saying, *the law is too important to be left only in the hands of lawyers*, which is why we advocate that information professionals take it upon themselves to debate this issue as a path to expanding social justice.

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Reflections on Open Science and the Teaching of Library and Information Science: A Perspective from Brazil

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Abstract

The essay analyzes aspects regarding the education of librarians in the context of open science, integrating a Brazilian viewpoint based on Paulo Freire's pedagogy. It argues that open science, as a contemporary phenomenon of scholarly communication, aims to promote inclusion and social justice but faces challenges and contradictions that could intensify historical inequalities. In this scenario, librarians play a crucial role as political and technical agents, requiring training that develops both practical skills and critical consciousness. This discussion highlights essential skills for librarians, as identified in the literature, including managing repositories, promoting content, developing information policies, enhancing data literacy, and establishing institutional partnerships. Additionally, it emphasizes the importance of understanding the contradictions of scholarly communication systems, the specific needs of local communities, and the structural challenges of open science. From a Freirean perspective, education is framed as a dialogical process that fosters mediation, emancipation, and social transformation. This approach seeks to empower librarians not only as skilled technicians but also as active agents of change, capable of shaping a more just and inclusive reality. Thus, the article proposes integrating open science principles into Library and Information Science (LIS) curricula, empowering librarians to act as mediators and advocates for equitable academic practices.

Keywords: open science, scholarly communication, LIS education, social justice, Paulo Freire's pedagogy.

Introduction

Scholarly communication encompasses the essential processes that enable the advancement of science. It goes beyond merely disseminating records of knowledge to include the production and utilization of that knowledge. Throughout history, the forms of scholarly communication have been shaped by the values, practices, and technological capabilities of each era.

These forms are the result of actions taken by individuals and institutions that promote or participate in these practices, deeply rooted in their historical contexts.

The complex network of stakeholders involved in scholarly communication underscores the need to understand its dimensions beyond distribution processes. Contemporary technological phenomena, tied to open science, have profoundly reshaped and broadened this understanding. Within this framework, open science represents a widespread movement advocating for increased access to research outputs. At the same time, it aims to innovate methods for producing and (re)utilizing academic knowledge (Beigel, 2023).

Open science projects aim to make things more democratic and to include groups and areas that have been left out in the past, which is a problem that Albornoz et al. (2020) point out. Consequently, new communication flows are expected to emerge both within and beyond traditional knowledge production environments. Discussions on open science highlight various structures that influence the processes of knowledge construction. As open access to academic publications has matured, new demands have emerged, including the openness of research data, the sharing of resources, and enhanced transparency in evaluation processes. These evolving expectations pose direct challenges to traditional academic cultures and researchers' practices. Simultaneously, they bring non-academic communities, academic system administrators, and librarians to the center of the discussion, expanding the scope of stakeholders engaged in shaping the future of scholarly communication.

Librarians play a critical role in information systems and scholarly communication (Santos-Hermosa & Atenas, 2022). Their contributions go beyond making informational products; they also offer services and come up with informational policies that guide and shape open science projects. Therefore, we must analyze the education of librarians to tackle scholarly communication in line with the current demands for restructuring academic communication practices.

Considering these requirements, this essay aims to deepen the discussion by addressing two key questions: What responsibilities do librarians assume within the context of open science? How can we prepare librarians to take on these responsibilities? This study uses literature from the field of Library and Information Science (LIS) to answer these questions. It looks specifically at three meta-analyses that explore the roles of academic libraries in open science (Liu & Liu, 2023; Giustini et al., 2021; Ogungbeni et al., 2018) and what that means for LIS education (Santos-Hermosa & Atenas, 2022).

To contextualize the Brazilian perspective in the debate, we analyzed contextual data published by Alencar & Barbosa (2021; 2022), Bosman et al. (2021), Silva (2023), and Santillán-Aldana and Mueller (2016). We conducted the reflections on librarian education in the context of the Freirean perspective on education (Freire, 1996; Freire, 2024).

Open science as a contemporary social phenomenon of scholarly communication

Scholarly communication is a human activity that shows typical features of social change in a certain setting, as experienced by people living in that historical reality. Thus, the phenomena of scholarly communication offer a lens through which the dynamics, values, and interests that emerge at each time and space can be analyzed.

In contemporary times, open science stands out as a relevant historical and social phenomenon, offering not only a deeper understanding of the dynamics of scholarly communication but also an insight into the diverse actors and interests involved. Proposals aimed at renewing the production, dissemination, and utilization of scholarly knowledge are at the core of discussions and practices related to open science.

This idea of renewal makes a point of showing that open science not only upholds old academic values and practices, like being open, letting everyone see results, and sharing them widely, but it also comes from a time of crisis. In a Gramscian sense (2022), this crisis is a time when things aren't quite right: old ways of thinking don't work in dealing with reality anymore, and new ideas for how to fix things haven't come up yet.

The first major crisis in the context of open science was the so-called "serial crisis," as described by Van de Sompel and Lagoze (2000). This crisis highlighted the disparity between the expansive access possibilities afforded by digital culture and the restrictions imposed by commercial publishers, who charged increasingly high subscription fees, despite the growing demand for access to materials that emerged in the 1990s. In response, researchers worldwide began organizing around a vision of scholarly communication that was more accessible and freer, drawing inspiration from the free software movement and the nascent initiatives of open archives, rooted in what Costa (2006) termed "free philosophies." Thus, the open access movement was born, initially focused on democratizing academic publications.

To achieve open access goals, two main paths were proposed: gold and green. The gold route encouraged the creation of new open access journals or the adaptation of existing ones to models aligned with open access principles, initially involving publishers and researchers.

Over time, however, it became evident that this transformation required a broader network of actors, including funding agencies and academic libraries, which came to play a central role in the *library as publisher* model (Lippincott, 2017). The green route positioned academic libraries as key players. As part of this strategy, copies of articles are put in institutional repositories, and libraries are expected to play a big role in building these repositories and making sure they follow institutional rules so they can work properly (Costa & Leite, 2017).

Systems for expanding the reach of academic publications were not the only proposals surrounding the open access movement in the early 21st century. They introduced a set of principles and values positioning science as a public good, built collaboratively, transparently, and accessible to all. Additionally, they emphasized commitments for the inclusion and the democratization of scholarly knowledge. Chan et al. (2005) highlighted the potential of open access to create communication flows originating in the Global South that could reach both the Global North and other regions of the South.

As discussions matured, the demands expanded to include not only publications but also research data, tools, evaluation methods, and distribution licenses. The movement engaged new actors and commitments, such as the inclusion of students through open educational resources and collaboration with non-academic groups in science initiatives. Open science offers a comprehensive framework for transforming scholarly communication, encompassing the entire knowledge lifecycle from creation to reuse. Pontika et al. (2015) proposed a taxonomy (Figure 1) that reflects this complexity.

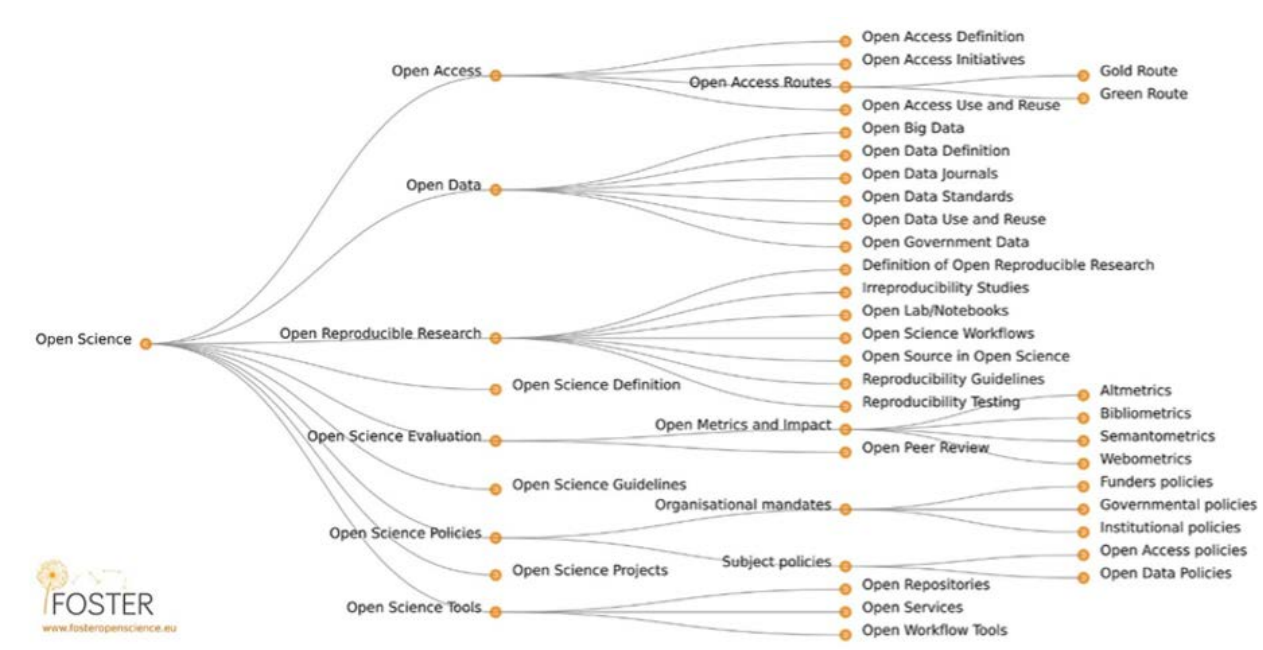


Figure 1: Open Science Taxonomy. Source: Foster Project apud Pontika et al. (2015)

Despite over two decades of experience with the open access movement, it is evident that, although its demands have become more complex and have engaged a broader network of actors and interests, some fundamental aspects of the initiative have seen limited progress.

In particular, the initiatives have shown limited effectiveness in creating new pathways to promote more equitable participation of researchers from marginalized regions in the context of mainstream science.

From crisis to contradictions in open science

A fundamental contradiction at the heart of open science lies in the antagonism between forces within scholarly communication, particularly the dominant role of major commercial publishing groups. As Shashok (2017) pointed out, commercial publishers have kept a lot of power over scholarly communication, affecting the creation and implementation of policies and being almost entirely responsible for the evaluation of research. This is true even though open science projects have grown up.

Faced with demands for open access, large publishers, such as Elsevier, have played a pivotal role in consolidating alternative business models that partially address researchers' calls for greater access to publications while maintaining, and in some cases expanding, their profitable business models within the core of science. As Buranyi (2017) pointed out, Elsevier's revenue and profit margins have continued to grow in recent years, despite efforts within the open access movement to create alternatives to the commercialization of scholarly publications.

Commercial groups maintain dominance and economic exploitation through the Article Processing Charge (APC) model, which replaces subscription fees for reading articles with publishing fees. While this model makes articles freely available with no cost for readers, it exacerbates existing inequalities in the already unjust relationships among researchers worldwide, as argued by Demeter and Istrate (2020). A significant issue lies in the inability of many researchers, particularly those from countries with limited research funding, to afford APCs. As Raju (2017) noted, "Even though it was never the intention for APCs to be unaffordable, the reality is that African researchers cannot publish in top-end open access journals." Moreover, Pinfield et al. (2015) noted that large commercial publishers received the majority of APC payments in the United Kingdom between 2007 and 2014, highlighting how, despite being framed as a means to support open access, the APC model has intensified the commercialization of scholarly communication, making it even more profitable for some publishers.

The United Kingdom's scenario mirrors those of other countries, including Brazil, in the Global South. According to Alencar and Barbosa (2021), between 2012 and 2019, Brazilian researchers paid over USD 40 million in APCs, with costs increasing year after year. We must add this expenditure to the over 5 billion Brazilian reais spent on the CAPES Portal of Journals over the past 20 years. The Portal is a national provider of access to a wide range of academic publications, particularly subscription-based ones. A national agency mediates the Portal, ensuring access to numerous higher education and research institutions in Brazil.

The emergence of hybrid journals further complicates the cumulative costs, raising concerns about double-dipping, where institutions pay twice for the same publication, first through APCs paid by researchers and then through subscriptions to access restricted articles. Mittermaier (2015) highlighted the lack of sufficient transparency to audit this process, despite publishers' claims that licensing costs adjust based on journals' licensing status. In this context, transformative agreements, such as "Read and Publish" models, have gained traction. Based on analyses of such agreements in Germany and Colombia, Alencar and Barbosa (2022) proposed guidelines for Brazil. According to the authors, these proposals must include both hybrid and open access journals to finance APCs for high-impact publications by researchers in Brazilian graduate programs.

Two key points summarize the significant controversy surrounding high-impact journals and APCs. First, paying APCs does not guarantee publication quality and has, in some cases, contributed to the proliferation of predatory journals, as emphasized by Björk and Solomon (2014) and Shamseer et al. (2017). Second, issues arise around quality evaluation criteria, which prioritize journals indexed in specific databases, often controlled by commercial publishers and aligned with their interests. Addressing this issue, Torres-Salinas et al. (2018) revealed that, between 2007 and 2016, open access journals represented only about 10% of the Web of Knowledge database. Despite the existence of top-end open access journals, they constitute a small fraction of commercial journal databases, where traditional evaluation models often serve to perpetuate inequalities.

An alternative to the APC is the diamond open access model, where neither access nor publication incur charges. However, diamond open access requires funding to operate. How can we ensure the sustainability of this model over time, and who funds it? Addressing these questions, Yoon et al. (2024) analyzed over 1,330 diamond open access journals. It was found that those funded by government agencies from the Global North exhibited greater sustainability. This data underscores the challenges of implementing open science projects in diverse global contexts, where countries and institutions face varying realities.

According to Bosman et al. (2021), Brazil boasts one of the highest numbers of diamond open access journals globally, particularly among countries with fewer than one full-time professional dedicated to journal operations. While Brazil stands out, the study revealed that, globally, 60% of diamond open access journals rely on volunteer efforts. In Brazil, these journals are closely tied to public universities and the unpaid work of professors, researchers, and graduate students. This highlights the indirect public funding of the diamond open access model in Brazil, frequently without explicit recognition.

Although the maintenance of diamond open access journals in Brazil predominantly relies on voluntary efforts by academics, there has been a growing trend of academic libraries offering support to such journals. As reported by Santillán-Aldana and Mueller (2016), the editorial services offered by academic libraries have evolved as a pragmatic response to the need for low-cost publishing in a digital environment, without profit expectations.

The role of academic libraries in the context of open science

Discussions and practices regarding academic libraries as publishers have long been part of the literature on library services, particularly driven by electronic journals. In 1984, Cronin and Martyn published a study highlighting the opportunities and challenges for libraries in the face of electronic journals, which had the potential to transform the role of these institutions in scholarly communication. The authors emphasized the importance of partnerships between libraries and publishers, as exemplified by the Adonis consortium project launched in 1981 (Bradbury, 1988). In that direction, Cronin and Martyn (1984) initiated a significant discussion that continues today in academic library services about their roles and how they can contribute to the growing use of electronic documents in scholarly communication.

From that point onward, the topic consistently appeared in discussions within the field until it gained new prominence in the 2000s with the rise of open access. In 2003, Prat warned of the changes in scholarly communication processes driven by electronic journals, which were influenced by both the technologies available and the provocations stemming from what he defined as free and open access to peer-reviewed academic literature. The author highlighted the potential of open access to democratize access to academic knowledge but noted that it had not yet succeeded in reducing costs. So, it was thought that scholarly communication stakeholders, like libraries, needed to be involved in coming up with alternatives that could effectively increase and make available to everyone academic knowledge that was produced.

Prat's (2003) observations contributed to ongoing discussions about the potential and challenges of open access over the following two decades. Proposed strategies emphasized the role of libraries as facilitators of content publication. Notably, the Scholarly Publishing and Academic Resources Coalition (SPARC) proposed in 2019 the development of funding structures for open scholarly communication infrastructures, where libraries operate under the "library as publisher" model. This involves hosting journal portals, publishing books and open educational resources, and broadly promoting open science frameworks within their communities (Dewey, 2020).

Dewey (2020) highlighted the library as the publisher model, which Lippincott's (2017) book further elaborated on. Lippincott provided guidelines for practice, addressing the changing academic publishing ecosystem and the growing involvement of academic libraries in innovating informational products and services for science. Open access to publications was emphasized not only as an indicator of shifts in publishing models but also as a call for knowledge-producing institutions, through their libraries, to foster more equitable and democratic access to academic outputs.

Atwood et al. (2021) cited examples such as incubators for open journal portals, repositories for gray literature, and digital humanities projects to argue for the integration of research data repositories into library services. The authors argued that promoting local content through institutional repositories, whether for publications or data, enhances the visibility and impact of local research. This impact extends not only to improved evaluation rankings but, more importantly, to the relevance of locally developed themes and perspectives, enhancing engagement with local communities.

Library-supported initiatives in this context are known by various terms, including Library Publishing Service, Library-Based Publishing, and Campus-Based Publishing, as noted by Santillán-Aldana and Mueller (2016). According to the authors, these services provide guidance on digital publishing, which may include training for platform use, understanding editorial policies, and technical support. A common feature is their alignment with the open access context and their integration with other library services and university presses.

In the Brazilian context, Silva (2023) investigated the offerings of Library Publishing Services at universities and categorized their experiences into eight groups: open access promotion and training, copyright, research data, author identifiers, research impact, metrics, publishing, and repositories. Although the study did not specifically target open access, the phenomenon appeared as the most prominent context among the services.

Other studies, such as those by Liu and Liu (2023), Giustini et al. (2021), and Ogungbeni et al. (2018), conducted meta-syntheses to identify the emerging roles of academic libraries in the context of open access using the academic literature. Liu and Liu (2023) performed a systematic review of 65 articles in Library and Information Science (LIS). Similarly, Ogungbeni et al. (2018) reviewed 34 LIS articles. Giustini et al. (2021) expanded their analysis to include 54 articles from both LIS and health sciences. Figure 2 organizes a synthesis of these studies and the categories they presented.

	Liu & Liu, 2023	Giustini et al., 2021	Ogungbeni et al., 2018
Type of research	Systematic review	Scoping reviews	Comprehensive review
Scope	LIS literature – 65 papers	LIS and HSL literature - 54 papers	LIS literature – 34 papers
Role of academic libraries in open science			
Service providers			
Advocates and educators			
Collaborator			
Policy makers			
Publisher			

Figure 2: Meta-synthesis about the role of academic libraries in open science

A common element across the three studies (Liu & Liu, 2023; Giustini et al., 2021; Ogungbeni et al., 2018) was the effort to identify the dimensions of open science. Using the taxonomy proposed by Pontika et al. (2015) as a framework, the authors identified open access and research data as the most prominent dimensions under investigation. Less frequently discussed were topics related to open educational resources, open source, and citizen science. The data indicated that discussions around research data are expanding and aligning with the development of more mature categories, such as open access, as highlighted by Santillán-Aldana and Mueller (2016). Based on the findings of these three studies on how academic libraries support open science, five theoretical groups have been established and will be presented below.

Service providers

The studies closely tie initiatives related to open access and research data to two key responsibilities. The first is the provision of services to various stakeholders in scholarly communication, such as researchers, students, and journal editors. These services include the development and maintenance of essential infrastructure, such as publication repositories, research data repositories, and repositories for educational resources. They also extend to supporting open access journals, digitization, and aspects of research data management. Broadening the scope to other dimensions of open science, Liu and Liu (2023) also highlighted activities such as curating collections of open educational resources and promoting makerspaces for citizen science.

Advocates and educators

The role of academic libraries as advocates and educators involves raising awareness and building skills within the academic community to understand and operate within the open science framework. Along with regular training, Liu and Liu (2023) and Giustini et al. (2021) stressed the importance of helping researchers understand the rules of funding agencies, the needs of academic publishers, and other outside services that deal with managing research data. Training on educational resources includes identifying and understanding licensing, discovery systems, and other tools. In the context of citizen science, libraries were noted for their responsibility to promote information literacy and provide tools to support projects within the institution.

Collaborators

The collaborative role of academic libraries was discussed in two main contexts. One is the institutional partnerships, when Ogungbeni et al. (2018) explored partnerships established with other institutions, particularly with other libraries. Another one is the regional and national collaboration, where Giustini et al. (2021) emphasized collaboration on a national and European regional level, highlighting the need to adhere to national and regional principles and standards to build communities that transcend institutional boundaries. In both cases, the significance of collaboration lies in the expectation of expanding and optimizing the structures necessary for the implementation of open science initiatives.

Policy makers

The role regarding policies highlights academic libraries as responsible for both formulating policies within the library itself and promoting and advising on policy development at the institutional level. Giustini et al. (2021) emphasize that the areas of open access and research data, which are the most developed categories of open science overall, clearly establish policies. In the studies reviewed by Liu and Liu (2023), policies are also considered at operational levels, such as IT services and guidance documents.

Less prominently, some studies also pointed to the responsibility of academic libraries in assisting with the management and monitoring of universities' APC costs and supporting copyright management.

Publishers

Libraries' involvement in open science initiatives are closely tied to their role as publishers. The studies identified a growing trend of libraries producing knowledge or publishing digital content, alongside their existing support services for open access journals. Library publishing services include providing tools and hosting platforms, as well as offering guidance on best practices for publishing content and scholarly communication.

A further dimension of this role involves promoting local and diversity-oriented content. Although not directly addressed by the studies mentioned earlier, this theme was explored by Tzanova (2020), as cited by Liu and Liu (2023) and Giustini et al. (2021). This dimension emphasizes the political power of libraries in promoting locally relevant content. The perspective seems to align with the idea that libraries are not neutral agents in the systems of knowledge production and promotion. Their role goes beyond merely providing materials, as their curation imparts meaning and context to the knowledge system they foster (Ameen et al., 2020).

LIS education

Understanding the importance of academic libraries' role in addressing the demands of open science requires considering the professionals who plan, execute, and evaluate these actions, namely, librarians. Santos-Hermosa and Atenas (2022) regard the training of information professionals as a strategic component for advancing the various dimensions of open science. This training aims not only to enhance skills but also to raise awareness.

To look into how librarians are trained for open science, Santos-Hermosa and Atenas (2022) looked at the programs of 36 LIS schools in Europe. They did this by using guidelines from Varlejs et al. (2016), which were made as part of the IFLA framework for continuous professional development, and Audunson and Shuva's (2016) ideas about how education works in Europe. Their study included an analysis of undergraduate and graduate curricula, as well as training programs offered by academic libraries in the context of open science.

The macro and meso levels contextualized the discussion of micro-level professional training. At the macro level, the study addressed international declarations and recommendations, while the meso level focused on national frameworks and the micro level on institutional contexts. This multi-tiered approach underscores the influence of national and international

political contexts in fostering broader awareness and providing the structures necessary for implementing open science initiatives.

At the international level, the study highlighted UNESCO's 2017 Recommendation on Open Educational Resources as the first document to explicitly address librarians' roles. The study identified training materials at the institutional level that cover broad topics such as open science, open access, research data, and open publishing. Additionally, nine institutions were noted for organizing workshops and seminars. However, only four out of the 36 analyzed institutions had formal librarian training programs. Based on their findings, Santos-Hermosa and Atenas (2022) recommend that LIS programs incorporate open science content transversally into curricula through both formal and informal education initiatives.

The strategy of analyzing European curricula provides valuable insights by systematically linking global contexts with evidence of practices in Europe. However, such analyses must be contextualized within their specific historical and territorial frameworks. It is essential to integrate not only data from diverse realities but also theoretical perspectives with intersections in the field of education.

Education as a practice of subject formation and reality transformation: by way of conclusion

To ground this reflection on scholarly communication and open science in LIS education from a Brazilian perspective, it is essential to illuminate the conception of education and professional training itself. Guided by the teachings of Brazilian educator Paulo Freire, this discussion explores the process of forming individuals capable of actively engaging with and transforming scholarly communication based on the principles of open science.

Freirean pedagogy asserts that education is a means of mediating knowledge and engaging with the world. Freire (2024) proposes educational practice as a strategy that fosters critical consciousness, empowering individuals to actively participate in transforming their reality. Critical consciousness involves understanding facts as they are, with all their complexities and contradictions. Unlike naive or magical consciousness, this form of awareness views reality externally, entangled in fatalism and passivity.

The development of critical consciousness is crucial for understanding open science as a contemporary phenomenon in scholarly communication, a project rooted in inclusion and social justice. But the project also has real problems. It pits different interests against each other and, in some cases, could make long-standing differences in academic knowledge systems worse.

Critical consciousness necessitates an educational process for individuals who act upon reality. In the promotion of open science, librarians are essential agents, as argued in this text. The formative process for librarians must include the development of skills and competencies, as outlined in the studies by Liu and Liu (2023). These studies include Giustini et al. (2023), Ogungbeni et al. (2018), and Santos-Hermosa and Atenas (2022). These skills include:

- Knowledge of information systems, particularly different types of repositories, academic publishing platforms, and digital preservation mechanisms.
- Promotion and dissemination of content within and beyond the academic community through marketing activities, event organization, and production of outreach materials.
- Informational policy development at both micro and macro levels.
- Data literacy and best practices for opening research data and educational resources.
- Development of local, regional, and international networks and partnerships.
- Understanding of academic knowledge financing and evaluation systems.
- Expertise in scholarly publishing practices and open licensing.

Beyond acquiring the skills necessary for project implementation, librarians must develop critical consciousness to influence the conception of open science. For this purpose, librarians should understand:

- Their local reality.
- The interests of their community, both academic and non-academic.
- The contradictions and challenges within scholarly communication systems.

Reflections on librarian education must also consider the role of educators in training programs. On this relationship, Freire (1996) teaches that:

- Educators must also engage in a dialogical process of teaching and learning. This circular process enables individuals to develop epistemological curiosity, critically exercising their ability to learn and teach.
- Teaching is not the transfer of knowledge. All individuals in the educational process should also view themselves as knowledge producers. Education should create opportunities for the genuine production of knowledge, rather than merely consuming it.
- Teaching is a human activity. As a human action, it requires an understanding of the world and its ideals. Humanity demands freedom, consciousness, and agency. Teaching demands professional competence, dialogue, openness, and generosity.

The relevance of Paulo Freire's teachings extends beyond the proven efficacy of his method for teaching literacy to workers, encompassing writing and technical mastery. His ideas reach the transformative essence of education: empowering professionals to understand their role in creating a more just and inclusive reality. This theoretical foundation presents the Freirean perspective on education as the basis for training new librarians, not just as technical specialists in organizing and disseminating knowledge, but also as agents of social transformation.

In conclusion, open science is not merely a technological or administrative advancement in scholarly communication, but a political and social project requiring critical engagement. Drawing on Paulo Freire's pedagogy, it emphasizes the need for librarian education to extend beyond technical training, fostering critical consciousness to reflect and act on contradictions in scholarly communication and advocate for inclusive knowledge-sharing practices. Librarians play a dual role as technical experts and social agents, necessitating an education that promotes reflection, dialogue and justice in knowledge production. The Freirian perspective thus provides a transformative framework for LIS education, positioning libraries as active participants in building a more open, inclusive, and democratic scholarly communication system.

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Reflexões sobre ciência aberta e o ensino da Biblioteconomia e Ciência da Informação, um olhar a partir do Brasil

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Resumo

O estudo analisa aspectos sobre a formação de bibliotecários no contexto da ciência aberta, integrando uma perspectiva brasileira fundamentada na pedagogia de Paulo Freire. Argumenta-se que a ciência aberta, enquanto fenômeno contemporâneo da comunicação científica, busca promover inclusão e justiça social, mas enfrenta desafios e contradições que podem acentuar desigualdades históricas. Nesse cenário, os bibliotecários desempenham um papel essencial como agentes políticos e técnicos, necessitando de formação que desenvolva tanto habilidades práticas quanto uma consciência crítica. A argumentação apresentada destaca competências fundamentais para os bibliotecários, já consolidadas em literatura da área, como gestão de repositórios, promoção de conteúdos, políticas informacionais, literacia de dados e parcerias institucionais. Além disso, enfatiza a necessidade de compreender as contradições dos sistemas de comunicação científica, as especificidades das comunidades locais e os desafios estruturais da ciência aberta. Sob a ótica freiriana, a educação é vista como prática de mediação, emancipação e transformação social. Ensinar e aprender são processos dialógicos que devem capacitar bibliotecários não apenas como técnicos, mas como protagonistas na construção de uma realidade mais justa e inclusiva. Assim, o artigo propõe que a formação em Biblioteconomia e Ciência da Informação integre de forma transversal os preceitos da ciência aberta, contribuindo para que os bibliotecários atuem como mediadores e promotores de práticas científicas equitativas.

Palavras-chave: ciência aberta, comunicação científica, ensino de Biblioteconomia, justiça social, pedagogia freiriana.

Introdução

A comunicação científica abrange processos essenciais para a realização da ciência. Ela não se restringe à distribuição de registros de conhecimento, mas envolve também os

aspectos de produção e uso dos saberes. As formas como a comunicação científica se desenvolveram ao longo da história estão intimamente relacionadas aos valores, práticas e possibilidades tecnológicas de cada período. Essas formas resultam da atuação de sujeitos e instituições que promovem ou realizam tais práticas em seu tempo histórico.

A complexa rede de sujeitos envolvidos na comunicação científica reforça a necessidade de compreender suas dimensões para além dos processos de distribuição. Essa compreensão tem sido significativamente ampliada e redesenhada pelos fenômenos tecno-sociais contemporâneos associados à ciência aberta. Nesse contexto, a ciência aberta emerge como resultado de uma ampla articulação em torno da demanda por maior acesso aos resultados de pesquisas, ao mesmo tempo que busca inventar novas formas de produzir e (re)utilizar o conhecimento científico (Beigel, 2023).

No centro das articulações da ciência aberta está a expectativa de promover maior democratização e inclusão de regiões e grupos historicamente excluídos, conforme problematizado por Albornoz et al. (2020). Assim, espera-se que novos fluxos de comunicação sejam criados dentro e fora dos ambientes tradicionais de produção de conhecimento. As discussões sobre ciência aberta evidenciam diferentes estruturas que atuam no processo de construção dos saberes. Com o amadurecimento das questões relacionadas ao acesso aberto às publicações acadêmicas, outras demandas começaram a ganhar forma, como a abertura dos dados de pesquisa, o compartilhamento de recursos e maior transparência nos processos de avaliação. Essas novas demandas desafiam diretamente as culturas acadêmicas tradicionais e as práticas dos pesquisadores, ao mesmo tempo que trazem para o centro do debate as comunidades não acadêmicas, os gestores dos sistemas científicos e os bibliotecários.

Os bibliotecários desempenham um papel fundamental nos sistemas de informação e comunicação científica (Santos-Hermosa & Atenas, 2022). Sua atuação vai além do desenvolvimento de produtos informacionais, abrangendo também a oferta de serviços e a articulação de políticas informacionais que dão forma e movimento às propostas da ciência aberta. Nesse sentido, a formação dos bibliotecários para atuar diante dos fenômenos da comunicação científica deve ser analisada em consonância com as demandas contemporâneas de reestruturação das práticas de comunicação da ciência.

Diante dessas exigências, este estudo buscou aprofundar o debate a partir de duas questões principais: Quais são as responsabilidades assumidas pelos bibliotecários no contexto da ciência aberta? Como preparar os bibliotecários para assumir essas responsabilidades? Para responder às perguntas aqui propostas, foi utilizada a literatura de Biblioteconomia e Ciência da Informação (BCI) a partir de três estudos de meta-análise sobre os papéis assumidos pelas bibliotecas acadêmicas no contexto da ciência aberta, a saber: Liu &

Liu (2023), Giustini et al. (2021) e Ogungbeni et al. (2018) e sobre o desdobramento do contexto no ensino da BCI (Santos-Hermosa & Atenas, 2022). Para a contextualização da perspectiva brasileira no debate foram considerados dados contextuais publicados por Alencar & Barbosa (2021; 2022), Bosman et al. (2021) e Santillán-Aldana & Mueller (2016). As reflexões acerca da formação dos bibliotecários foram propostas à luz da perspectiva freiriana de educação (Freire 1996 e Freire 2024).

A ciência aberta como fenômeno social contemporâneo da comunicação científica

A comunicação científica, enquanto fenômeno da atividade humana, incorpora aspectos representativos do desenvolvimento social em um contexto específico, manifestados por sujeitos de uma realidade histórica particular. Assim, os fenômenos da comunicação científica oferecem uma lente para analisar as dinâmicas, valores e interesses que emergem em um determinado tempo e espaço.

Na contemporaneidade, a ciência aberta se apresenta como um fenômeno histórico e social relevante, proporcionando não apenas uma compreensão mais aprofundada das dinâmicas da comunicação científica, mas também dos múltiplos atores e interesses envolvidos. No centro das discussões e práticas relacionadas à ciência aberta estão propostas que buscam renovar as formas de produzir, distribuir e utilizar o conhecimento científico.

Essa noção de renovação evidencia que, embora a ciência aberta reafirme práticas e valores tradicionais do pensamento científico moderno, como a transparência, o acesso público e o amplo alcance de seus resultados, ela também emerge de um contexto de crise. A crise aqui é entendida no sentido Gramsciano (2022) em que a crise representa o momento de descompasso onde o que vivemos já não dá mais conta da realidade e o novo ainda não nasceu.

A primeira grande crise no contexto da ciência aberta foi a chamada por Van de Sompel & Lagoze (2000) de “crise dos periódicos”. A crise tornou evidente a discrepância entre as amplas possibilidades de acesso proporcionadas pela cultura digital e as restrições impostas pelas editoras comerciais, que cobravam valores cada vez mais altos por assinaturas. Essa situação contrastava com a crescente demanda por acesso aos materiais, especialmente a partir da década de 1990.

A crise dos periódicos impulsionou pesquisadores de todo o mundo a se articularem em torno de um projeto de comunicação científica mais acessível e livre. Essa visão foi inspirada por práticas do movimento de software livre e pelas incipientes iniciativas de

arquivos abertos, baseadas no que Costa (2006) denominou “filosofias livres”. Assim, nasceu o movimento de acesso aberto, que inicialmente focava na democratização das publicações científicas.

Para atingir os objetivos do acesso aberto, foram propostas duas principais vias: dourada e verde. A via dourada incentivava a criação de novos periódicos de acesso aberto ou a adaptação dos já existentes para modelos baseados nos princípios do acesso aberto, envolvendo, inicialmente, editores e pesquisadores. Com o tempo, entretanto, ficou evidente que essa transformação exigia uma rede mais ampla de atores, incluindo agências de fomento, instituições avaliadoras e bibliotecas acadêmicas, que passaram a ocupar um papel central no modelo de library as Publisher, conforme discutiu Lippincott (2017).

Já a via verde coloca as bibliotecas acadêmicas como protagonistas. Essa estratégia propõe o depósito de cópias de artigos em repositórios institucionais, o que exige a participação ativa das bibliotecas tanto no desenvolvimento desses repositórios quanto na implementação de políticas institucionais que assegurem seu funcionamento (Costa & Leite, 2017).

As propostas em torno do movimento de acesso aberto, no início do século XXI, não se limitaram aos sistemas para ampliar o alcance das publicações científicas. Elas apresentaram um conjunto de princípios e valores que posicionaram a ciência como um bem público, construída de forma colaborativa, transparente e acessível a todos. Além disso, destacou compromissos com a inclusão e a democratização da ciência. Chan et al. (2005) enfatizaram as potencialidades do acesso aberto em criar fluxos de comunicação que partam do Sul Global e alcancem tanto o Norte Global quanto outras regiões do próprio Sul.

Com o amadurecimento das discussões, as demandas foram ampliadas para incluir não apenas publicações, mas também dados de pesquisa, ferramentas, formas de avaliação aberta e licenças livres de distribuição. O movimento passou então a envolver novos atores e compromissos, como a inclusão de estudantes por meio dos recursos educacionais abertos e a colaboração com grupos de fora da ciência, a partir das iniciativas de ciência cidadã.

Assim, a ciência aberta configura-se como uma proposta de transformação abrangente nas práticas de comunicação científica, desde a produção até o (re)uso do conhecimento. Essas práticas têm sido sistematizadas em diferentes taxonomias, como a proposta por Pontika et al. (2015) (figura 1) e amplamente utilizada pela literatura do tema. As taxonomias refletem a complexidade das iniciativas e debates no contexto da ciência aberta.

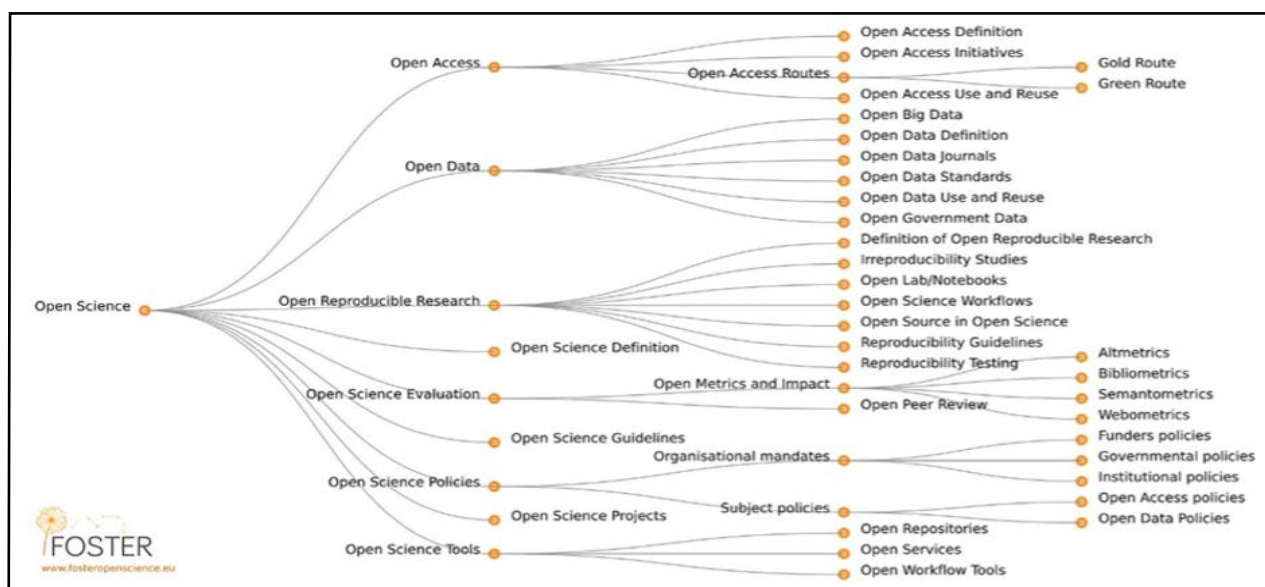


Figura 1: Taxonomia da ciência aberta.

Fonte: Pontika et al. (2015)

Após mais de duas décadas de experiência do movimento de acesso aberto, observa-se que, embora as reivindicações tenham se tornado mais complexas e tenha envolvido uma rede mais ampla de atores e interesses, alguns elementos fundamentais da proposta ainda avançaram pouco. Em particular, destaca-se a limitada efetividade das iniciativas em criar novos caminhos que promovam uma participação mais equitativa de pesquisadores provenientes de regiões marginalizadas no contexto da ciência central.

Da crise para as contradições da ciência aberta

Uma contradição que se estabelece no coração da ciência aberta é o antagonismo de forças relevantes na comunicação científica, como os grandes grupos editoriais comerciais. Conforme discutiu Shashok (2017), mesmo com o amadurecimento das iniciativas de ciência aberta, os editores comerciais mantiveram seu domínio de grande parte da comunicação científica, influenciando a forma como as políticas são elaboradas e executadas e atuando de forma quase exclusiva nos mecanismos de avaliação da ciência.

Pressionados pelas demandas do acesso aberto, grandes grupos editoriais como a Elsevier tiveram papel relevante na consolidação de outros modelos de negócios que contemplaram parte das reivindicações dos pesquisadores por mais acesso às publicações, mas que mesmo assim mantiveram, e em alguns casos ampliaram, seu lucrativo negócio no coração da ciência. Conforme apontou Buranyi (2017), a receita e a taxa de lucro da Elsevier foi crescente nos últimos anos, a despeito de todos os esforços empenhados no âmbito do acesso aberto para criar alternativas à comercialização das publicações científicas.

Uma das formas de manutenção de domínio e exploração econômica dos grupos comerciais reside no modelo de article processing charge (APC), onde de pagamento de assinatura para a leitura dos artigos passa a ser substituído pelo pagamento para publicar. O modelo, embora disponibilize livremente o artigo para a leitura, amplia as desigualdades das já injustas relações entre os pesquisadores ao redor do mundo, conforme defendeu Demeter & Istratii (2020). Uma dimensão dessa problemática reside na incapacidade de diversos pesquisadores em arcar com os valores cobrados de APC, especialmente aqueles pesquisadores de países que contam com um já escasso acesso ao financiamento da ciência. Conforme discutiu Raju (2017, tradução nossa), “Embora nunca tenha sido a intenção que as APCs fossem inacessíveis, a realidade é que os pesquisadores africanos não conseguem publicar em periódicos de acesso aberto de alto nível”.

Pinfield et al. (2015) identificaram que no Reino Unido, entre 2007 a 2014, a maior parte do pagamento de APC era destinada para as grandes editoras comerciais. Os resultados sinalizam que, embora o modelo APC seja apresentado como um modelo de financiamento dos propósitos do acesso aberto, eles têm sido significativos para a manutenção e ampliação dos lucros da comercialização da comunicação científica.

O cenário do Reino Unido é acompanhado por outros países, inclusive do Sul Global como o Brasil. De acordo com os dados apresentados Alencar & Barbosa (2021), no período de 2012 a 2019 pesquisadores brasileiros pagaram mais de quarenta milhões de dólares em APC, em aumentos crescentes, ano após ano. O valor do APC no Brasil precisa ser somado aos mais de 5 bilhões de reais pagos em 20 anos ao Portal de Periódicos da Capes. O Portal é um provedor nacional de acesso a uma ampla variedade de publicações acadêmicas, especialmente aquelas de acesso pago. A partir da mediação de uma agência nacional, o Portal provê acesso a diversas instituições de ensino superior e de pesquisa no Brasil.

A somatória dos custos a partir do surgimento de periódicos híbridos tem provocado uma nova preocupação acerca do duplo pagamento, uma pelos pesquisadores que pagam a APC e outra pelas instituições que assinam os periódicos para garantir o acesso aos artigos em acesso restrito. Embora os editores afirmem que os custos de licenciamento são ajustados conforme a situação de licenciamento dos periódicos, Mittermaier (2015) aponta que o processo não é dotado de transparência suficiente para auditar o processo.

Nesse contexto, tem avançado as propostas em torno de acordos “Leia e Publique”, a partir de acordos transformativos. A partir da análise da experiência na celebração de contratos dessa natureza na Alemanha e na Colômbia, Alencar & Barbosa (2022) propuseram diretrizes para o debate no Brasil. De acordo com as autoras, os acordos precisam incluir

os periódicos híbridos e os de acesso aberto de forma a financiar o APC em periódicos de alto impacto para os pesquisadores dos programas de pós-graduação brasileiros.

A noção de periódicos de alto impacto e APC aloja outra importante controvérsia, que podem ser sistematizados de maneira breve em dois pontos. O primeiro é que o pagamento de APC não garante a qualidade das publicações e em alguns casos tem sido utilizado para fomentar o modelo de periódicos predatórios, conforme aponta Björk & Solomon (2014) e Shamseer et al. (2017). O segundo ponto diz respeito à discussão em torno das problemáticas sobre os critérios de avaliação de qualidade, baseado em princípios que privilegiam periódicos presentes em determinadas bases de dados, que são em geral, produto das editoras comerciais e atendem seus interesses. Acerca da problemática, Torres-Salinas et al. (2018) revelaram que na base Web of Knowledge entre 2007 a 2016, os periódicos de acesso aberto representavam apenas cerca de 10% do conjunto de conteúdos disponibilizados. Mesmo que saibamos da existência de periódicos de acesso aberto de alto nível, na prática elas representam uma parcela pequena das grandes bases de periódicos, onde o modelo de avaliação tradicional pode funcionar como mecanismo para a manutenção das desigualdades.

A alternativa colocada ao modelo APC é o modelo diamante de acesso aberto, na qual não se paga nem para acessar e tampouco para publicar artigos de periódicos. Embora não receba pagamento direto, os periódicos que funcionam a partir do modelo diamante precisam de financiamento para funcionar. Então, quem financia o modelo diamante? Como a sua sustentabilidade ao longo tempo é garantida? Visando responder essas questões, Yoon et al. (2024) investigaram as características de mais de 1330 periódicos diamantes e descobriu que aqueles de origem do norte global e que são financiados por agências governamentais têm os maiores índices de sustentabilidade no modelo diamante. Os dados revelam mais uma vez os desafios para a implementação dos projetos de ciência aberta frente às diferentes realidades dos países e suas instituições.

Segundo o levantamento realizado por Bosman et al. (2021), o Brasil é um dos países com a maior quantidade de periódicos no modelo diamante e lidera o topo quando entre os países com menos de 1 profissional dedicado em tempo integral ao trabalho dos periódicos. Embora o caso brasileiro seja o mais expressivo, o estudo mostrou que 60% dos periódicos diamantes são dependentes da atuação voluntária de profissionais para o seu funcionamento. No caso do Brasil, tais periódicos estão vinculados diretamente com as universidades públicas e à atuação não remunerada dos professores, pesquisadores e estudantes de pós-graduação. Nesses casos é possível perceber o financiamento público do modelo de acesso aberto diamante no Brasil, mas de forma indireta e, muitas vezes, não qualificada.

Ainda que predomine no Brasil a atuação voluntária de acadêmicos para a manutenção de periódicos no modelo de acesso aberto diamantes, tem sido crescente a oferta de apoio aos periódicos dessa natureza pelas bibliotecas acadêmicas. Conforme relatado por Santillán-Aldana & Mueller (2016), os serviços de editoração ofertados pelas bibliotecas acadêmicas desenvolvem-se como uma resposta pragmática à necessidade de proporcionar editoração de baixo custo, em ambiente digital e sem a expectativa de lucro.

Atuação das bibliotecas acadêmicas no contexto da ciência aberta

As discussões e práticas sobre bibliotecas acadêmicas como publicadoras de conteúdo fazem parte da literatura sobre os serviços ofertados, especialmente impulsionadas pelos periódicos eletrônicos. Cronin e Martyn, em 1984, publicaram um estudo que apontava as oportunidades e desafios para as bibliotecas diante das publicações eletrônicas de periódicos, o que poderia alterar a presença destas instituições no ciclo informacional dos documentos. Os autores ressaltaram a importância da parceria das bibliotecas com os editores, a exemplo do projeto de consórcio de editores Adonis, lançado em 1981 (Bradbury, 1988). Nesse sentido, Cronin e Martyn (1984) preconizam uma discussão relevante e presente nos serviços de informação das bibliotecas acadêmicas sobre suas funções e potencialidades diante da crescente entrada dos documentos eletrônicos na comunicação científica. A partir de então, observa-se que o tema esteve presente de maneira consistente nas discussões da área, até que, a partir dos anos 2000, ganhou novos destaques em função das discussões acerca do acesso aberto.

Ainda em 2003, Prat alertava sobre as mudanças nos processos de comunicação da ciência via os periódicos eletrônicos, resultado tanto das tecnologias disponíveis no momento, como pelas provocações resultantes do que ele estabeleceu no momento como “acesso aberto e gratuito à literatura científica revisada pelos pares” (p. 94 e 95, tradução nossa). Prat (2003) ressalta que o acesso aberto tem potencial para ampliar a democratização do acesso ao conhecimento científico, mas que ainda não tinha sido capaz de diminuir os custos. Nesse sentido, a participação dos atores da comunicação científica, tais como as bibliotecas, fazia-se necessária para criar alternativas que de fato pudessem ampliar e democratizar o acesso ao conhecimento produzido no âmbito da ciência.

A provocação de Prat (2003) seguiu as discussões sobre potencialidades e desafios para o acesso aberto durante as duas décadas seguintes e, dentre as estratégias apontadas, indicou a participação das bibliotecas como facilitadoras do processo de publicação dos conteúdos. Em especial, destaca-se as propostas da Scholarly Publishing and Academic Resources Coalition (SPARC) de 2019 para criar estruturas de financiamento da infraestrutura aberta para a comunicação da ciência, onde as bibliotecas atuem no

modelo “biblioteca como publicadora”, a partir da hospedagem de portais de periódicos, publicando livros e recursos educacionais abertos e, de maneira ampla, promovendo as estruturas abertas da ciência em suas comunidades (Dewey, 2020).

O modelo “biblioteca como publicadora”, sinalizado por Dewey (2020), foi detalhado na obra de Lippincott (2017) em um livro dedicado ao tema, onde são apresentadas orientações para a prática. A autora parte do contexto de mudança no ecossistema de publicações acadêmicas e a ampliação da participação das bibliotecas acadêmicas na inovação de produtos e serviços informacionais para a ciência. O contexto do acesso aberto às publicações também é ressaltado como um ponto relevante, não apenas por sinalizar mudanças no modelo editorial, mas especialmente por implicar as instituições produtoras de conhecimento, por meio de suas bibliotecas, para promover acessos mais democráticos e justos às produções científicas.

Experiências como incubadoras de portais de periódicos abertos, repositórios de literatura cinzenta e projetos de humanidades digitais são alguns dos exemplos citados por Atwood et al. (2021) ao defender que os repositórios de dados de pesquisa também devem integrar o portfólio de serviços dessa natureza. Os autores afirmam que a promoção do conteúdo local a partir de experiências de repositórios institucionais, sejam eles de publicações ou de dados, auxiliam a aumentar a visibilidade e impacto da pesquisa local. Esse impacto pode alcançar não só melhores resultados em rankings de avaliação, mas especialmente a relevância de temas e perspectivas das produções desenvolvidas localmente, melhorando assim seu engajamento com a comunidade local.

O apoio prestado pelas bibliotecas acadêmicas nesse contexto, pode receber diferentes nomenclaturas, variando entre Library Publishing Service, Library-Based Publishing e Campus-Based Publishing, conforme apontou (Santillán-Aldana & Mueller, 2016). Conforme os autores, esses serviços oferecem orientações sobre editoração digital, que pode ser dirigido à capacitação para o uso de plataformas, compreensão sobre políticas editoriais e suporte técnico. Apresentam como característica comum o contexto do acesso aberto e a integração com outros serviços dentro da biblioteca e com as editoras universitárias.

Considerando o contexto brasileiro, Silva (2023) investigou a oferta dos serviços para a editoração nas bibliotecas acadêmicas e sistematizou as experiências encontradas em oito categorias, a saber: promoção e formação acerca do acesso aberto, direitos autorais, dados de pesquisa, identificadores de autor, impacto da pesquisa, métricas, publicação e repositórios. Embora a pesquisa não tenha focado especificamente no contexto do acesso aberto, o fenômeno apareceu como contexto mais presente entre os serviços.

Outros estudos como de Liu & Liu (2023), Giustini et al. (2021) e Ogungbeni et al. (2018), realizaram meta-análise para identificar os novos papéis das bibliotecas acadêmicas frente ao contexto do acesso aberto a partir da literatura acadêmica. Liu & Liu (2023) realizaram uma revisão sistemática em 65 artigos da Ciência da Informação. Estratégia semelhante foi aplicada por Ogungbeni et al. (2018), em 34 artigos de LIS. Já Giustini et al. (2021), além de considerar as discussões no campo de BCI, também abrangeu trabalhos no campo das ciências da saúde e analisou 54 artigos. Uma síntese desses estudos e das categorias apresentadas foi organizada no Quadro 1.

	Liu & Liu, 2023	Giustini et al., 2021	Ogungbeni et al., 2018
Tipo de pesquisa	Revisão sistemática	Revisão de escopo	Revisão sistemática
Abrangência	Literatura de BCI – 65 artigos	Literatura de BCI e CS - 54 artigos	Literatura de BCI – 34 artigos
Papel das bibliotecas acadêmicas na ciência aberta			
Provisionamento de serviços			
Educação e promoção			
Colaboração			
Formulação de políticas			
Publicadora			

Quadro 1: Meta análise sobre os papéis das bibliotecas acadêmicas na ciência aberta

Outro elemento comum aos três estudos foram os esforços para identificar as vertentes da ciência aberta presentes nas discussões dos textos analisados. Considerando a proposta de taxonomia proposta por Pontika et al. (2015), os autores apontaram o acesso aberto e os dados de pesquisa como as dimensões mais presentes na investigação. Com menos frequência, foram identificadas as temáticas relacionadas aos recursos educacionais abertos, software livre e ciência cidadã. Os dados sinalizaram que as discussões acerca dos dados de pesquisa estão sendo ampliadas e acompanhando o desenvolvimento de categorias mais maduras como do acesso aberto, conforme sinalizou Santillán-Aldana & Mueller (2016).

Considerando os resultados dos três trabalhos selecionados sobre os papéis assumidos pelas bibliotecas acadêmicas no apoio à ciência aberta, foram organizadas cinco categorias teóricas que serão apresentadas a seguir.

Provisionamento de serviços

As iniciativas relacionadas ao acesso aberto e aos dados de pesquisa estão diretamente envolvidas com as duas responsabilidades mais discutida pelos estudos. A primeira delas é o provisionamento de serviços aos diferentes atores da comunicação científica, como pesquisadores, estudantes e editores de periódicos. Os serviços abrangem desde a construção e manutenção de estruturas necessárias, como repositórios de publicações, repositórios de dados e repositórios de recursos educacionais como o apoio aos periódicos de acesso aberto, a digitalização e aspectos relacionados à gestão dos dados de pesquisa. Ampliando para as outras dimensões da ciência aberta, Liu & Liu (2023) ainda citam ações de curadoria de coleções de recursos educacionais abertos e a promoção de makerspaces para a ciência cidadã.

Educação e promoção

As discussões em torno das funções de educação e promoção dos projetos tratam da formação de consciência e no desenvolvimento de habilidades na comunidade acadêmica para compreensão e atuação no contexto da ciência aberta. Além das atividades tradicionais de formação, Liu & Liu (2023) e Giustini et al. (2021) ressaltam a assistência aos pesquisadores para o entendimento das políticas das agências financiadoras da pesquisa, dos editores acadêmicos e de outros serviços externos a própria universidade para a gestão dos dados de pesquisa. Os treinamentos acerca dos recursos educacionais envolvem a identificação e a compreensão dos licenciamentos, dos sistemas de descobertas e outros recursos. Já no contexto da ciência cidadã, os estudos apontaram para as responsabilidades da promoção do letramento informacional e de ferramentas para o desenvolvimento dos projetos existentes na instituição.

Colaboração

O aspecto da colaboração é tratado sob duas abordagens. Ogungbeni et al. (2018) discorrem sobre as parcerias que são estabelecidas com outras instituições, em especial com outras bibliotecas. Já na perspectiva dos resultados de Giustini et al. (2021), a colaboração foi pensada em nível nacional e da região europeia. Foram consideradas as necessidades de conexão e adesão aos princípios e padrões nacionais e regionais para a constituição de comunidades que extrapolam os limites institucionais. Em ambos os casos a relevância da colaboração reside na expectativa de ampliação e otimização das estruturas necessárias à realização das iniciativas de ciência aberta.

Formulação de políticas

O papel acerca das políticas enfatiza as bibliotecas acadêmicas como responsáveis tanto pela formulação de instrumentos normativos e legais no âmbito da biblioteca, como na promoção e no assessoramento da formulação de políticas em nível institucional. Acerca das políticas, Giustini et al. (2021) destaca que estas se dão de maneira mais precisa no âmbito do acesso aberto e dos dados de pesquisa, uma vez que estas são as categorias da ciência aberta mais bem estabelecidas. Já nos estudos considerados por Liu & Liu (2023) as políticas também são consideradas em níveis operacionais, como apoio técnico. De maneira menos expressiva, alguns estudos ainda apontaram para a responsabilidade das bibliotecas acadêmicas em auxiliar na gestão e no monitoramento das taxas de APC das universidades e auxiliar na gestão dos direitos autorais.

Publicadora

Conforme discutido anteriormente, a oferta de atividades da biblioteca como publicadora está intimamente relacionada com a participação da instituição nas iniciativas de ciência aberta. Os estudos apontaram como uma tendência a atuação das bibliotecas como produtoras de conhecimento ou como publicadores de conteúdo em formato digital, além dos serviços de apoio aos periódicos de acesso aberto já existentes na instituição. Os serviços podem ser no contexto da oferta de ferramentas e hospedagem, mas também na orientação de outras práticas relacionadas ao conteúdo que será publicado e as melhores práticas para a comunicação científica.

Outra dimensão acerca dessa categoria revela a potencialidade das bibliotecas acadêmicas na promoção de conteúdos de interesse local e orientado para a diversidade. O tópico não foi tratado diretamente pelos estudos relatados anteriormente, mas esteve presente no trabalho de Tzanova (2020), citado por Liu & Liu (2023) e Giustini et al. (2021). Nesta dimensão é enfatizado o poder político da atuação das bibliotecas na promoção de conteúdo. A perspectiva parece estar de acordo com a ideia de que as bibliotecas não são agentes neutros nos sistemas de produção e promoção de conhecimentos. Sua atuação, portanto, não limita-se apenas ao fornecimento de materiais, pois sua curadoria imprime significado e contexto ao sistema de conhecimento que promovem (Ameen et al., 2020).

Ensino de BCI

O entendimento da relevância da atuação das bibliotecas frente às demandas da ciência aberta nos leva a pensar sobre os sujeitos que planejam, executam e avaliam as ações desempenhadas, portanto os bibliotecários. Santos-Hermosa & Atenas (2022) considera como estratégico para o desenvolvimento dos diferentes níveis de abertura da ciência a formação dos profissionais da informação, de modo não só a qualificá-los, mas também os conscientizar.

Para compreender o processo formação dos bibliotecários para a ciência aberta Santos-Hermosa & Atenas (2022) examinaram os programas de 36 escolas de BCI na Europa e declararam considerar para análise as orientações de Varlejs et al. (2016), elaboradas no âmbito da IFLA e os apontamentos de Audunson & Shuva (2016) sobre o contexto de educação no continente europeu. Além dos currículos dos cursos, os autores também consideram os treinamentos ofertados pelas bibliotecas acadêmicas no contexto da ciência aberta. A discussão do que os autores consideraram sobre o micro nível da formação dos profissionais para o tema foi contextualizada em referência nos níveis macro e médio. O nível mais alto trata de declarações e recomendações internacionais, enquanto o nível intermediário restringe-se ao âmbito nacional, já o micro está voltado para o contexto institucional. A abordagem das autoras é relevante na medida em que explicita as influências de contextos políticos nacionais e internacionais na formação de uma consciência ampla sobre o tema e no provimento de estruturas necessárias para a realização das propostas.

Em nível internacional, o destaque do estudo foi para a Recomendação da Unesco (2017) sobre objetos educacionais abertos como o primeiro documento a explicitar diretamente a atuação dos bibliotecários. No nível institucional foram identificados materiais para o treinamento que contempla temas amplos da ciência aberta, acesso aberto, dados de pesquisa e publicação aberta. Além disso, foram listados eventos como workshops e seminários em nove instituições. Já os cursos de formação para os bibliotecários estiveram presentes em apenas 4 das 36 instituições analisadas. Diante do cenário descrito, Santos-Hermosa & Atenas (2022) recomendam que os cursos de BCI desenvolvam conteúdos de maneira transversal no currículo a partir de programas formais e informais de educação.

A estratégia de análise dos currículos em nível europeu é relevante para o debate por apresentar uma sistematização que envolve o contexto global e evidências de práticas no contexto da Europa. No entanto, toda a análise precisa ser contextualizada em seu próprio tempo histórico e territorial. Portanto, é essencial que outros contextos regionais sejam investigados e novas recomendações sejam produzidas considerando suas particularidades. Nesse sentido, faz-se necessário adicionar ao conjunto das reflexões, não apenas dados das diferentes realidades, mas também perspectivas teóricas diversas e com interface no campo da educação.

A educação como prática de formação dos sujeitos e transformação das realidades: à guisa de conclusão

Para localizar a reflexão sobre a comunicação científica e a ciência aberta no ensino da BCI a partir de um olhar brasileiro, ressalta-se a necessidade de dar luz à própria concepção da educação e à formação profissional. Mediada por pelos ensinamentos do

pedagogo brasileiro Paulo Freire, serão tecidas algumas reflexões sobre o processo de formação dos sujeitos para a atuação e transformação da comunicação científica a partir dos preceitos da ciência aberta.

A pedagogia freiriana parte do princípio de que a educação é uma forma de mediação de saberes e de estar no mundo. Como estratégia, Freire (2024) propõe a prática educativa como uma ação para a formação de consciência crítica para que os sujeitos sejam ativos na transformação de sua realidade. A consciência crítica é aquela em que se elabora a compreensão dos fatos da forma como são, com sua complexidade e contradições. Tal forma de consciência é diferente da consciência ingênua ou mágica, na qual a realidade é vista de fora, implicada em fatalismo e docilidade.

A formação da consciência crítica se faz necessária para a compreensão da ciência aberta como um fenômeno contemporâneo da comunicação científica, que se estabelece a partir de um projeto de inclusão e justiça social. No entanto, é um projeto que expressa as contradições do mundo material, que antagoniza interesses e que, em alguns casos, pode ampliar as desigualdades estabelecidas historicamente nas relações em torno do conhecimento acadêmico.

A formação da consciência crítica implica em considerar o processo de educação dos sujeitos que agem sobre a realidade. Na promoção da ciência aberta, os bibliotecários são agentes fundamentais, conforme defendido neste texto. O processo formativo dos bibliotecários precisa passar pelo desenvolvimento de habilidades e competências, conforme apresentado pelos estudos de Liu & Liu (2023), Giustini et al. (2021), Ogungbeni et al. (2018) e Santos-Hermosa & Atenas (2022). Tais habilidades envolvem conhecimentos sobre:

- sistemas de informação, em especial os diferentes tipos de repositórios,
- plataformas de editoração científica e mecanismos de preservação digital;
- promoção e divulgação de conteúdos dentro e fora da comunidade acadêmica, por meio de atividades de marketing, promoção de eventos e produção de materiais de divulgação;
- políticas informacionais em nível micro e macro;
- alfabetização de dados e melhores práticas para abertura dos dados de pesquisa e dos recursos educacionais;
- desenvolvimento de redes e parcerias locais, regionais e internacionais;
- sistemas de financiamento e avaliação do conhecimento acadêmico;
- práticas de editoração científica e licenciamento aberto.

Além dos conhecimentos e habilidades para a execução dos projetos, os bibliotecários devem ter consciência crítica para influenciar na concepção da ciência aberta a ser realizada. Para tanto, é necessário que o bibliotecário tenha conhecimento sobre:

- sua realidade local;
- os interesses de sua comunidade dentro e fora da acadêmica;
- as contradições dos sistemas de comunicação científica e seus desafios.

As reflexões em torno da formação do bibliotecário, também devem incluir o posicionamento dos docentes nos cursos de formação. Sobre essa relação, Freire (1996) nos ensina que:

- o docente precisa também ser discente em um processo dialógico de ensino-aprendizagem. Pois é nesse processo circular que os sujeitos desenvolvem uma curiosidade epistemológica, exercendo criticamente sua capacidade de aprender e de ensinar.
- o ato do ensino não é transferência de conhecimento. Todos os sujeitos em processo de formação devem se assumir também como produtores de saberes. Nesse sentido, a prática de educação deve promover as possibilidades para a produção genuína de conhecimento e não apenas de seu consumo.
- ensinar é uma atividade humana e portanto, como ação humana exige a compreensão do mundo e de seus ideais. A humanidade exige liberdade, consciência e poder de atuação. Como ensino, exige competência profissional, diálogo, disponibilidade e generosidade.

A relevância dos ensinamentos de Paulo Freire vai além da eficácia de seu método comprovado para a alfabetização de trabalhadores, abrangendo a escrita e o domínio técnico. Suas ideias alcançam o aspecto mais transformador da educação: o empoderamento dos profissionais na compreensão de seu papel na constituição de uma realidade mais justa e inclusiva. Com base nisso, aqui foi apresentada a perspectiva freireana de educação como fundamento para a formação de novos bibliotecários, não apenas como técnicos especializados na organização e disseminação do conhecimento, mas também como agentes de transformação social.

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SECTION E

Scholarly communication and research impact

Equitable Research Assessment Driving Research Impact in the Global South: A Perspective from South Africa

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Abstract

This conceptual essay critically explores how the concepts of transformation and equity in research assessment can drive scholarly communication and social impact in the global South. This is because, over the years, scholarly communication has dramatically changed due to technological developments, open access and funder mandates. However, research assessment systems in South Africa and the global South have not kept up with the changes in scholarly communication. Hence, higher education assessment systems are under scrutiny as they are viewed to be driving scholarship away from its fundamental purpose, which is to recognise and reward scholarship that addresses the questions that matter most to society. Many scholars have noted how the scholarly communication process is now less linear and complex than ever before; however, how scholarship is assessed still embraces traditional systems, which exclude and further expose marginalised groups to epistemic injustice. So, this study, informed by critical theory, explores the transformative power of equitable research assessment in driving research impact in South Africa. The essay draws from the literature and researchers' experience in this area, which has focused on the development of a holistic framework for assessing research impact in a research-intensive institution in South Africa. The study recommends that higher education institutions should interrogate their policies and structures that inform assessment systems to ensure these are aligned with institutional and national values in support of the societal impact of research. Also, there is a need for a concerted effort and action from institutional and national leaders to reform performance and research assessment systems and practices, so they are equitable and socially just. Similarly, they need to centre research assessment processes in the decolonisation agenda, as it directly links to the curriculum and scholarly communication.

Keywords: research impact, social impact, scholarly communication, global South, South Africa

Introduction

In recent decades, there has been a growing demand from policymakers and society for universities to contribute to addressing societal challenges as a result of the dramatic changes in the context in which universities operate (Ari et al., 2020; League of European Research Universities, 2017; Bornmann, 2013). Universities in South Africa and abroad have experienced shrinking budgets, which has resulted in increased competition between researchers to access the limited research funding. Universities are now more than ever expected to maximise the public benefits arising from publicly funded research. Hence, attention has been turned towards mechanisms for assessing and incentivising the public benefits of research (Mfengu & Raju, 2024; Molas-Gallart, 2015). The prioritisation of research impact, beyond scholarly contribution, influences how research is planned, funded, conducted, assessed and reported (Doyle, 2018). However, the impact of research has been less prioritised in South Africa despite many calls for transformation and decolonisation emerging from the global South. Research impact is a complex and rapidly growing field of inquiry. The Australian Research Council (2024) views research impact as the contribution that research makes beyond contributions to academia, contributions to the economy, society, culture, health, the environment and quality of life. Likewise, Greenhalgh et al. (2016) state that research impact occurs when research generates benefits (health, economic, cultural and more) on top of building an academic knowledge base. These authors differentiate between scholarly impact, which is the influence that the research has on knowledge advances, economic and societal impact, which captures the diverse ways in which research-related knowledge and skills benefit society (individuals, organisations and nations) (Penfield et al., 2014; Vitae, 2017). Assessing and demonstrating non-academic research impact for publicly funded research has become a key aspect of research policy (Oancea, 2013) and in improving the economic and social efficiency of allocating public research resources (Mfengu and Raju, 2024). Moreover, impact assessment of research expenditure has been elevated on the policy agenda through three inter-related economic imperatives: scarcity of resources to increase a move toward productivity (intensifying the demand for innovative research solutions that improve research outcomes with the same or less public expenditure); and efficacious, effective and cost-effective research outcomes (to avoid unproductive expenditure) (Deeming et al., 2017). Equally, the impact of research is an important concern in higher education as well as a key component of universities' societal and economic role (Terama et al., 2016). Impact assessment can inform strategic planning by both funding bodies and research institutions (Greenhalgh et al., 2016).

Although the societal impact landscape is an emerging area and underdeveloped in the global South, global trends to document and measure the benefits of research for society are increasing the pressure on researchers and institutions.

Scholarly communication seeks to make research publicly available, yet scholarly communication activities (primarily focused on academic publishing) tend to be directed toward promotion, academic appointment (tenure) and funding allocation (Mfengu & Raju, 2024; Given, Kelly & Willson, 2015). This focus on academic publishing is not inclusive of the many activities that are involved in scholarly communication. Medvecky (2018) argues that science communicators get to decide both which knowledge is shared (by choosing which topic is communicated) and who gets access to this knowledge (by choosing which audience it is presented to). The author adds that these decisions of science communicators have important implications for epistemic justice¹: how knowledge is distributed fairly and equitably. The implications of these decisions extend beyond just assessing research, as they significantly influence the career progression opportunities for researchers. Thus, it is important to view scholarly communication and research assessment as being related, as they inform each other.

The changing scholarly communication landscape has resulted in a growing interest from funders to assess the impact of research, and funders are mandating researchers to demonstrate the impact of their research. Sound research impact assessment procedures have the potential to encourage ethical and quality research (Moher et al., 2019). From the global South context, equity in research assessment is critical. Equity is a concept that is sometimes used synonymously with equality. It is an approach that ensures everyone has access to the same opportunities and recognises that advantages and barriers exist for some, especially global South researchers as compared to global North. Equity begins by acknowledging that people may have experienced unequal starting points and making a commitment to correcting and addressing these disparities. Equality treats every individual in the same way, while equity attempts to address potential inequalities between individuals. And so, research assessment cannot be transformed without recognising the diverse scholarly communication activities and ensuring that equity is central in research assessment to advance inclusivity and diversity. Assessment is often used to promote learning, but the mechanisms of how assessment relates to epistemology – knowledge and knowing – have been scarcely studied and theorised (Nieminen & Lahdenperä, 2021). While these authors are writing from a teaching and learning perspective, the same can be argued for research assessment or evaluation.

¹ Epistemic justice focuses on fairness and equity in knowledge production, dissemination and utilisation to empower marginalised people. Epistemic injustice was coined by Miranda Fricker in 1999, it comprises unfair treatment in knowledge-related and communicative practices in which the voices, experiences and problems of marginalised individuals, communities and societies are not being taken seriously (Cummings et al., 2023).

Little has been published on how research assessment in South Africa relates to knowledge production and how research assessment can advance the impact of research and address societal issues.

Research problem and objective

Research evaluation and assessment systems utilised in higher education institutions (HEIs) have been under scrutiny because they are viewed as driving scholarship away from its fundamental purpose (Mfengu & Raju, 2024). To reiterate, that is, to recognise and reward scholarship that addresses the questions that matter most to society. To take this further, scholarship emerging from the African continent should address questions and issues of local relevance on top of contributing to the body of knowledge. Research evaluation systems have, for too long, focused on academic impact at the expense of research that has societal benefits. Moreover, evaluation systems have, for too long, emphasised quantitative measures at the expense of research that cannot be quantified (Mfengu & Raju, 2024). Quantitative measures and other factors (institutional and research culture, behaviour and norms) drive researchers to focus on knowledge contribution (publications and citations) to advance in their careers, as these are well recognised and rewarded. Thus, this results in inequitable recognition and rewards for researchers who focus on societal impact, which is more complicated and long-term, might have greater benefits on policy, practice and the real world. Many scholars have argued that the realisation of societal impact hinges on recognising and rewarding scholarship that is impactful beyond academic impact. With the global South experiencing unique developmental challenges, research emanating from HEIs and research councils in the region has a critical role to play in addressing some of the inequalities in the region. As scholarly communication has been significantly transformed over the years, research assessment systems also need to be transformed to align with these changes and be more context-sensitive. Scholars such as Masaka (2019) and Zeleza (2009) have argued that the discourse on transformation and decolonisation in Africa is premised on the need to dismantle and reverse the injustices brought about by the colonial system of domination. Fundamentally, this has revolved around the education curriculum and how it could be used to dismantle the deleterious structures of injustice across various spheres of human existence that it has helped to shape, as well as to exacerbate (Masaka, 2019; Heleta, 2016). However, few studies, if any, have explored decolonisation in the context of research assessment, especially from a South African context and being cognisant of the local realities. Therefore, the problem this study investigates is the epistemic injustices in current research assessment systems. Hence, the objective of this study is to explore the transformative power of equitable research assessment systems in driving research impact with a focus on South Africa.

To explore the study's objective using critical theory, three critical questions will guide the discussion:

- a. What role do current research assessment systems play in driving societal impact?
- b. What inequalities does the current system exert on marginalised researchers?
- c. How can equitable research assessment systems drive the impact of research beyond the academy?

Conceptual approach

In exploring the transformative power of equitable research assessment systems in driving research impact in the global South, this essay adopts critical theory to advocate for change in how HEIs drive research impact in Africa and the global South. Critical theory emerged from social and philosophical works. The term 'critical theory' was coined in 1937 by Horkheimer (1972) in his essay "Traditional and Critical Theory". It seeks human emancipation from colonialism, which still lingers in current research assessment systems utilised by universities in South Africa. Pyati (2007) describes critical theory as a normative social theory concerned with progressive social transformation and change. It interrogates power dynamics and politics in society for the emancipation of the oppressed. Thus, acknowledging power differentials inherent in social structures, which critical theorists seek to transform such structures to be more just and fair (Arneson & Bowle, 2009). The theory calls for an action reform agenda and, in this context, reforms on how researchers are assessed to advance the impact of research. Critical theory is crucial in a transformative agenda as it provides a lens to interrogate the oppressive power of the current research assessment systems. It allows researchers to draw on personal experiences and narratives that can challenge the hegemonic power, which is central to critical theory. Felt (2022, para. 3) noted that critical theory "is a shared commitment to looking at the world in new ways and pushing ourselves to think more deeply about it to reshape it in a more just form". Therefore, critical theory allows us to understand power – how power in this context shapes researchers' choices concerning scholarly communication activities, where and how they choose to disseminate their scholarship and what informs those decisions and actions. Felt (2022, para. 2) states, "if evaluation theory is who we are, then critical theory is a framework for asking questions about how we relate to power, how it shapes our work and how our work shapes it in return". Therefore, critical theory and research assessment are related and allow for a more nuanced and in-depth understanding of the phenomenon. Moreover, many studies have called for epistemic justice, diversity and inclusivity concerning scholarly communication, recognising the interconnectedness of scholarly communication and socioeconomic shifts. While the study is limited to South Africa, the insights learnt from this study can be applied to other similar contexts beyond Africa.

Literature review and discussion

The next sections present relevant literature with a focus on the transformation agenda, current research assessment practices and a discussion on the reform in research assessment processes and practices (informed by critical theory).

Research impact and impact assessment

Research evaluation and research assessment are sometimes used synonymously, but this study differentiates between the two. Research evaluation is a systematic process whereby institutions, organisations, funders or governments put together standards on assessing the value or degree of achievement of research to gain insight into prior or existing initiatives, to enable reflection and to assist in the identification of future change. The prime objective is to support and strengthen the quality of research (European Science Foundation, 2012, p.3). Research evaluation traditionally is the most widely used tool for the allocation of funding by many funders, and hence it is important to interrogate. Research assessment includes the evaluation of research quality and measurements of research inputs, outputs and impacts and embraces both qualitative and quantitative methodologies, including the application of bibliometric indicators and peer review (Moed, 2007). However, it is necessary to look holistically at the research process and how impact arises, as well as the assessment of impact. According to the European Science Foundation (2012, p.3), research impact assessment performs a dual task: demonstrating the value of research and increasing the value of research through a more effective way of financing research for it to have an impact. Research impact assessment provides a richer picture by looking at the research process instead of focusing only on research products. In 2021, the National Research Foundation (NRF) of South Africa developed an NRF Framework to Advance the Societal and Knowledge Impact of Research. The framework conceptualises impact assessment with a focus on identifying and communicating impact rather than comparing, evaluating or measuring impact (South African National Research Foundation, 2021, p.7). This is different from what universities are planning to do (as many are still grappling with assessing impact in South Africa), which is to assess research impact at an individual and institutional level; the NRF Framework's primary goal, on the other hand, is to identify and communicate impact at a national level instead of assessing it. Hence, this is still a gap in South Africa, and many universities are still developing impact frameworks like the University of Cape Town, South Africa. For the first time in 2024, the NRF of South Africa introduced a Societal Impact Award (South African National Research Foundation, 2024) in recognition of research with an impact that has resulted in improvement in the quality of people's lives. This marks good progress towards recognising research impact but also highlights the inequitable recognition of research that has a societal impact compared to academic impact, as many researchers with socially impactful research will be competing for a single annual national award.

Taking this into consideration, the move to societal impact or impact beyond academia requires appropriate indicators of impact that can capture the nuances thereof that are often missed by traditional measures. As traditional indicators of impact, which are numerical (metrics), and many of which are descriptive or qualitative, tend to be limited to quantitative data, while research impact indicators should be all-encompassing, including more robust measures of both academic and societal impact. The Canadian Academy of Health Sciences (2009, p.22) highlights that there is no single indicator of impact of research that is sufficient to demonstrate impact for any organisation or individual; any single indicator can be dismissed as being partial, imperfect and likely to distort. Hence, a need to use these indicators with caution and to complement them with qualitative indicators.

Earlier studies noted that humanities scholars still felt pressured to use metrics, despite their unease when doing so and the fact that the indicators do not necessarily reflect humanities scholars' notion of quality (Hammarfelt & Haddow, 2018, p.930). This is not just unique to humanities scholars, but global South researchers feel similar pressures as they try to compete in the global space. In 2018, the Australian National Health and Medical Research Council (NHMRC) compiled a guide for peer review based on the San Francisco Declaration on Research Assessment (DORA) principles which eliminated the use of journal impact factor (JIF) and required consideration of a broad range of measures that affect the assessment of an applicant's research achievement. Appropriately, the NHMRC measures included both quantitative and qualitative measures, such as the scientific value of publications and their influence on current discourse, policy or practice (National Health and Medical Research Council, 2018). Thelwall et al. (2013, p.2) noted the limitations of bibliometrics and that the societal impact of research may not be well addressed by metrics but by a range of alternative methods (such as altmetrics, peer review, interviews, case studies) that have been developed to assess societal impact.

Universities transformative agenda

Equity, diversity, inclusion and accessibility (EDIA), also known as the transformation agenda, are critical agendas as they relate to universities' transformation strategies, which support the participation of under-represented or under-served individuals in the knowledge economy. A shift in current research assessment practices towards open and responsible research assessment (RRA)² approaches have the potential to create equal opportunities for diverse individuals.

² Responsible research assessment (RRA) is an umbrella term for approaches to assessment that incentivise, reflect and reward the plural characteristics of high-quality research, in support of diverse and inclusive research cultures (Curry et al., 2020, p.7).

While many universities and research institutions have diversity and equity statements to ensure equitable access for all staff and researchers, these statements often do not translate to research assessment practices. Moreover, “the academic research environment is characterised by the under-representation of women, persistence of a masculine culture and the model of an excellent scientist reflects an outdated male lifecycle, restricting recognition of work done outside academia” (Kraemer-Mbula, 2020, p.89). Therefore, universities and institutions need to critically examine the biases that exist within current research assessment systems and knowledge cultures relating to gender, race, disability, language, sexual orientation and other marginalised communities. Hatch and Curry (2020, p.2) add that progress toward gender and race equality has been made in recent years, but the pace of change remains unacceptably slow. This is also the case for South African universities despite having transformation-related policies in place. Similarly, DORA, as part of its principles to help universities and research institutions improve their research assessment policies and practices, argues for the need to prioritise equity and transparency of research assessment processes (DORA, 2020).

Also, as rightfully put by Hatch and Curry (2020, p.2) the use of proxy measures (such as h index, citations, JIF and more) still preserves biases against scholars who still feel the force of historical and geographical exclusion from the research community. Equally, gender has been identified as a critical factor in research impact assessment; the COVID-19 pandemic has further affected womxn researchers and there has been a call for research assessments to factor this (COVID-19 is amplifying ..., 2021). This is not only true for the pandemic but also generally highlights gender inequality in higher education knowledge systems that needs to be factored into research assessments as the unequal demand on womxn in society was in existence in pre-pandemic times and will persist post-pandemic as well. The pandemic's impact will be felt for years to come, which means it will also affect subsequent research assessments; funders need to consider how they can equitably account for the harm caused to research and careers in the 2020 period (“COVID-19 is amplifying ...”, 2021). The Humane Metrics Initiative (HuMetricsHSS) takes the approach that if metrics are not shaped by core values, then these values will be distorted by metrics (HuMetricsHSS, 2020). In 2016 HuMetricsHSS committed to five values in pursuing a values-based approach to transforming the culture of higher education and their values, including: equity, openness, collegiality, quality and community (HuMetricsHSS, 2020). Hence, research assessment practices and processes in HEIs need to be informed by institutional values of equity and inclusivity, especially in support of locally relevant, socially impactful research.

Research assessment systems and research impact

Research assessment systems have the potential to drive societal impact. Therefore, it is fundamental that research assessment systems positively influence researchers to effectively drive societal impact. Driving the societal impact of local research is crucial to addressing local issues such as inequality, unemployment and poverty, to mention a few that burden the African continent and global South. It is worth noting that researchers in HEIs in South Africa are doing research that has societal value. However, demonstrating and assessing impact beyond academia is still in its early stages in South Africa and much of the African continent. Thus, in a study at the University of Cape Town (South Africa), academics and researchers found it hard to think about how societal impact can be best assessed (Mfengu, 2022). It should be acknowledged that as a country, South Africa is still in the early stages of assessing impact, especially societal impact and thus still developing approaches for assessing research impact. While this is true, conceptualising equitable assessment frameworks requires concerted effort and action from institutional and national leaders. In research assessment reform, Hatch and Curry (2020, p.1) reason that “systemic change requires a fundamental shift in policies, processes and power structures, as well as in deeply held norms and values”.

A study at the University of Cape Town indicated the need for having approaches that can assess science engagement, collaborations (nationally, internationally and with corporations), mentorship of colleagues and students, as well as the impact on curriculum, explicitly the decolonisation³ of the curriculum as this is a priority for the institutions and South Africa (Mfengu, 2022). Maldonado-Torres (2007, p.243) argues that coloniality is preserved in books, in the criteria for academic performance, in cultural patterns, in common sense and in the self-image of people. Hence, research assessment needs to recognise the various contributions that researchers’ and academics’ work may have. Implying an appropriate approach for assessing research impact would need to factor in the different research activities, outputs and outcomes and perform longitudinal studies or assessments that use both qualitative and quantitative approaches, such as the case study approach, without sacrificing local context. This is because case studies can go deeper than metric indicators. A case study approach can allow both researchers and beneficiaries to share their impact stories. Therefore, a case study approach is a more meaningful approach because it can combine multiple sources of data to provide a complete view of the societal impact of research.

³ Decolonisation speaks to the process of recognising and decentering of western dominance in knowledge production and other areas. Coloniality is defined as the ‘long-standing patterns of power that emerged because of colonialism, but that define culture, labour, intersubjective relations, and knowledge production (Maldonado-Torres, 2007, p.243)

Moreover, others cautioned that impact assessment systems need to have the researchers at the core of the design for them to be meaningful, not just to assessors but also to researchers; that is, allowing researchers to present why their research is valuable (Mfengu, 2022). Additionally, senior academics and researchers could advocate for recognition of diverse outputs from research, which will allow early career researchers (ECRs) to emulate them without the fear of being punished. This approach would represent a positive step forward and significantly contribute to promoting and enhancing the societal impact of research. This is in line with work by Mfengu (2024), which highlighted that South African universities need to rethink how they evaluate research because social impact counts too.

Inequalities in research assessment systems

The earlier sections alluded to the critical role that research impact assessment plays in shaping the societal impact of research emanating from HEIs. However, despite this role, inequalities persist in research assessment systems and further exclude marginalised groups. Therefore, it is critical to explore injustices and oppressive power in current research assessment systems and how these shape scholarly communication choices of marginalised researchers or individuals from the global South. The epistemic injustices that are involved in publishing and scholarly communication are, by association, perpetuated in research assessment as the approaches are still focusing on quantitative measures and traditional measures. Therefore, it is important to call for epistemic justice in research impact assessment practices as well as in scholarly communication.

It is publicly known that academics and researchers globally are dissatisfied with current metrics as these measures do not capture the ‘full story’ of the impact, and not all impacts from research can be quantified (Mfengu & Raju, 2024). These biases (gender, geographic location, language and others) have also been highlighted earlier. Moreover, the metrics are known to be rigid, and they are used arbitrarily to assess researchers across disciplines. While the academic community agrees that metrics have an important role to play in research impact assessment, recent studies globally and from South Africa indicate that they need to be complemented by qualitative indicators of research impact (Mfengu, 2022; DORA, 2021; Reale et al., 2017; Penfield et al., 2014; De Jong et al., 2011; Donovan, 2011). These inequalities affect a lot of academics and researchers, but for those in creative disciplines where performance is important, qualitative measures can capture the nuances that metrics are not able to, which is more important in assessing research impact from the art and creative discipline because the kind of criteria one looks at in performance would be at an artistic level, which is very subjective, making it both problematic and interesting (Mfengu, 2022).

A common critique from academics and researchers is that the limitations of quantitative indicators tend to fuel the ‘publish or perish’ principles, where researchers tend to aim for quantity instead of quality research. Bibliometrics tends to have a systematic bias against individuals in or from the global South, biases against younger researchers or those who have not been researching for long (Mfengu, 2022). Hence, bibliometrics is not a good indicator for smaller disciplines or niche areas, as the realities are different from the global North and may impose geographic biases, as researchers are critiqued or excluded because they are writing from a particular position.

Therefore, evaluators and research managers must take a holistic view when assessing impact by not only focusing on research outputs but also on research contributions. This is particularly crucial for disciplines where other outputs like vaccines, performances, and other products and outputs are more beneficial than journal articles. Similarly, impact assessments need a holistic look at the person’s career and what they have done and an actual interrogation of the importance of their contributions, which needs a bit of digging under the surface. In the same accord, limitations are also posed by funder assessment criteria, which are limited to bibliometrics with very little space for the use of altmetrics and narratives to showcase the impact of their research. This is notwithstanding the challenges with qualitative measures, hence the need to adopt a complementary (quantitative and qualitative indicators) approach, as either alone has its limitations.

Research assessment reform

Many open access advocates have argued that research is a public good that should be accessible for public benefit hence, advocacy for diamond open access is driven by the global South due to its social justice imperatives. However, most research is still hidden behind paywalls, and researchers still advance in their careers, thus, there is little to no incentive for researchers to adopt open access and open science, as they are not adequately recognised and rewarded compared to traditional outputs (journal articles, books, etc.). This is also seen in research assessment systems where there is little to no reward or recognition for open access and societal impact, making it less attractive for researchers to engage in. Therefore, it should be a core component of research impact assessment systems and supported by fostering an environment that encourages societal impact while ensuring it is equitably recognised and rewarded.

While metrics and quantitative indicators provide data and evidence to support decision-making, some of the “most precious qualities of academic culture resist simple quantification, and individual indicators can struggle to do justice to the richness and plurality of research” (Wilsdon et al., 2015, p.iii).

As highlighted earlier, quantitative indicators provide a good source of evidence for tracking research outputs, but alone, they are not enough; they need to be supplemented. Thus, metrics have evoked mixed emotions from the research community, which has resulted in various declarations such as the 2012 DORA, the Metric Tide, and the Leiden Manifesto for research metrics (Hicks et al., 2015). Wilsdon et al. (2015, p.xi) assert that higher education leaders ought to develop a clear statement of principles on their approach to research assessment, including the role of quantitative indicators. While these declarations are a decade old, the research community in the global South is still focused on academic impact and metrics. These declarations highlight the importance of prioritising equity and transparency, as well as adopting a holistic view of research assessment on how researchers' contributions are viewed. Equity and transparency are some of the key challenges with the use of metrics for assessing research impact. This is because quantitative indicators are extracted from Western bibliometric databases that are biased towards the global South and thus further exacerbate epistemic injustices embedded in the assessment systems. Thus, a call for reform in how research is assessed in HEIs, and related contexts is necessary to drive locally relevant and impactful research. This would usher a shift away from the 'rat race' of metrics and towards adopting a holistic view in research assessment processes as well as valuing and nurturing talent (Schmidt, Curry & Hatch, 2021). Similarly, these declarations and RRA principles have been significant as they provide a needed shift from describing the problems within research assessment towards designing and implementing solutions (Curry et al., 2020).

The issue of systemic biases has been at the core of metric-based research assessment systems. Moreover, a set of indicators can determine or hinder career progression if institutions in the global South continue to misapply the limited set of criteria that they use for allocating funding, promotion and tenure processes. Therefore, the time is now for reform in research assessment, so research assessments are more context-sensitive and equitable (Mfengu, 2022). This will no doubt drive research impact beyond the academy, but it will also encourage alignment between policy and practice related to research impact assessment. This approach not only has the potential to centre the societal impact of research but also has the potential to embrace agency and context in research assessments. Research assessments tend to be misaligned with institutional policies, values and missions for many global South institutions and aligning them will encourage researchers to contribute to social challenges affecting their immediate communities.

Equitable research assessment

Epistemic justice in research assessment is accentuated by the increasing awareness that a rich tapestry of perspectives enriches the robustness and relevance of research beyond academia. Traditional biases in academic publishing, which have historically privileged certain geographies, languages, and epistemologies, must be addressed (Dadze-Arthur & Mangai, 2024) if universities are to fully serve their global and diverse stakeholder base. ECRs and young academics, post-apartheid, must contend with performance systems that privilege the global north and socially white perspectives and knowledge in a black-majority region (Modiri, 2020, p.171). These authors argue that the overrepresentation of whites and power tends to wield over the production and dissemination of knowledge and discourse in the academy. Therefore, it is important to turn the tide and resist the commodification of emancipatory knowledge and its penetration by assessing researchers in ways that are decolonial and socially just.

Mamdani argued that historically, white HEIs in South Africa had intellectual freedom but lacked social accountability (Adebajo, 2020, p.21). This raises the question of how universities can maintain autonomy when they are being funded to be “productive”. Highlighting the need to reconceptualise productivity and excellence in line with social justice principles. While we are post-apartheid and have started the decolonisation project that began years ago, coloniality still exists in a lot of academia and scholarly communications; consequently, a call for a transformative approach to research assessment. Research impact assessment needs to be viewed holistically, not only focusing on research outputs but also research contribution and therefore, indicators used should be able to ‘measure’ change because of one’s research contribution. This calls for a realignment of research assessment with the purpose of research and the transformative agenda of universities. Modiri (2020, pp.158-59) further argues that the problem transpires when the Eurocentrism of university institutional structures, academic research, curricula and pedagogy migrate from the margin and the underground to the hegemonic centre. This is what happens when universities institutionalise unstable and contested political histories, subjectivities and locations into curricula and research (Modiri, 2020) and, by extension, Western research assessment practices.

Conclusion and recommendations

This study examined the epistemic injustices in current research assessment systems. It explored the transformative power of equitable research performance systems in driving research impact in South Africa and the global South by extrapolation. The study outlined the challenges with the current assessment processes, which are focused on academic impact and quantitative measures.

Therefore, resulting in inequitable recognition and rewards for researchers who focus on research impact, which is more complicated and long-term and might have greater benefits on policy, practice and the real world, which is necessary to contribute to addressing social challenges. Moreover, societal impact hinges on recognising and rewarding scholarship that is impactful beyond academic impact, as researchers' behaviour is influenced by what is rewarded. With the global South experiencing unique developmental challenges, research emanating from HEIs and research councils in the region has a critical role to play in addressing some of the inequalities in society. Hence, research assessment systems need to be transformed in line with changes in scholarly communication, as research outputs and impacts are now more diverse, but assessment systems have remained westernised and metric-based. Thus, the study recommends the following:

- a. HEIs need to interrogate the policies and structures that inform current research assessment systems to ensure these are aligned with institutional and national values in support of the societal impact of research,
- b. Concerted effort and action from institutional and national leaders are key to reforming performance and research assessment systems and practices to be more equitable and socially just, and
- c. Centering research assessment processes in the decolonisation agenda, as it is directly linked to the curriculum and scholarly communication.

While we recognise that South African HEIs are in the early stages of research reform, a fundamental shift in policies, processes and power structures is crucial to drive research assessment reform. Research assessment reform requires a whole system change and buy-in from researchers and support staff. It also requires a different way of thinking from what is currently in practice for a meaningful change to be realised and to drive research impact. This is because scholarly communication, research, and research assessment are still deeply ingrained in coloniality and dominant powers, which need to be dismantled to build inclusive and equitable research assessment systems.

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The Multiversatory: Fostering Diversity and Inclusion in Research Information by Means of a Multiple-Perspective Observatory

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Abstract

For science and technology to contribute to social justice, scientometrics analyses need to be able to produce descriptions that are appropriate to specific contexts and values. Given that the participation of stakeholders in the analyses is crucial for these perspectives to be realized, this requires research information analyses that are “open”. In this essay, we propose that this “openness” in research information concerns several dimensions. In the first place, research information should be open in the sense of being *transparent and accessible*. Second, research information should be open in the sense of being *inclusive and diverse*, which includes two dimensions: that stakeholders can actually use it, and that the contents include different types of knowledge. Third, the research information should be provided in forms that *empower interrogation* by stakeholders, so that they can retrieve and construct the descriptions of science and technology that are more appropriate for their context. This last step implies efforts to make visible many scientific contributions from the global south which are currently invisible. We call this vision “the multiversatory”: an approach to the observation of science that facilitates pluralistic analyses of the knowledge created across a variety of places and contexts, the pluriverse.

Keywords: observatory, research information, monitoring, diversity, inclusion

Introduction

Scholarly knowledge has been and remains a key component for colonial and contemporary societies, including how they create and extract wealth and resources from some territories and social groups (Harding, 2008). Social and territorial inequalities are partly explained by the privileged access of some groups to this scholarly knowledge and associated technologies, which allow these groups to keep their hegemonic positions. Nevertheless, not just access, but also the type of knowledge that is produced,

reproduced and made visible in academia is responsible for how societies remain unequal. Some forms of knowledge might foster more equal societies than others.

For example, in health sciences, new knowledge on prevention or health systems management are more likely to have equitable outcomes than discoveries leading to therapeutic approaches.

How can research information help in making scholarship a force for social justice? The answer is not going to be just about library and information infrastructures that facilitate a more democratic access to knowledge – this is important, but it is not enough. Also needed are library and information infrastructures that include types of knowledge, in particular those types of knowledge that are more conducive to social justice, as well as retrieval and analytical processes that make equally visible different (but legitimate) scholarly or scientific perspectives: for example that low-tech solutions (such as some herbal medicines or insecticide nets) can be sometimes more effective than highly sophisticated technologies (such as expensive pharmaceutical drugs).

In this contribution, we will explore these aspects in the case of research information infrastructures. By research information infrastructures we refer to the databases, digital platforms, analytical tools such as indicators or visualisation devices, etcetera, that are used by academic and policy organisations to inform decisions on research evaluation, management and policies. The essay is organised as follows. First, we describe the problem lack of diversity, given the marginalisation of some forms of knowledge, particularly those related to place-based knowledge in non-hegemonic spaces. Second, we discuss the relevance of epistemic diversity in the face of a changing goals of science in society. Third, we show how cognitive biases can be addressed with more inclusive and diverse research information infrastructure. Fourth, we propose an analytical framework for pluralising research information.

The essay finishes with a proposal of a multi-perspective observatory, *the multiversatory*, that weaves the insights discussed in a specific combination of research information infrastructure and participatory process. The multiversatory is a vision of an observatory of science and technology that allows multiple perspectives on the research that is observed through the active engagement of users. In doing so, the multiversatory would ideally be a means to bring to make visible the research topics that matter for social justice from the particular standpoints of marginalised populations, in contrast to the conventional indicators and descriptions.

Research problem and objectives

The key question that this essay aims to address is: how can research information infrastructures be designed so that they make diverse knowledge more publicly accessible and visible?

This aim depends on three related issues:

- The plurality of knowledge available for a given issue.
- The context of the knowledge, so that the user can choose those relevant for them, given their particular places and values.
- The types of knowledge that can support social justice, which may often be invisible or marginalised

A new understanding of the relationship between research and society is emerging, with more emphasis on the social missions and outcomes of science. This understanding poses new demands in terms of how and what type of research information is needed, in particular for research to be a public good. A recent initiative, the *Barcelona Declaration on Research Assessment* (2024)¹ highlights the need of research information infrastructures to be “open”, in the sense of transparency and accessibility. We propose, as suggested also by *Declaration*, that Open Research Infrastructures also need to be inclusive and diverse – i.e. encompass knowledge from various disciplines and territories, and that this is best achieved with decentralised and federated infrastructures (Babini et al., 2024).

In this context, our objective is to address the need for analytical tools that are pluralistic and contextualised in the type of outputs produced (indicators, visualisations) (Rafols & Stirling, 2021). There is evidence that inappropriate use of technologies due to poor contextualisation is a major problem; retrieval and indicators that foster appropriate contextualisation might improve the impact of locally relevant knowledge (Moscona & Sastri, 2021). Social justice is best served by developing research information infrastructures that allow a plurality of perspectives regarding relevant knowledge (Leach et al., 2010). Given that the relationship between knowledge and social justice is complex, often unexpected and not necessarily linear, it is important to provide plural perspectives and make efforts to visualise the type and the sources of knowledge that are marginalised in mainstream infrastructures. We call a ‘Multiversatory’ the approach that mobilises research information infrastructures to provide a plurality of perspectives, and then through engagement with users, it allows to co-create indicators and descriptions of science that are appropriate for specific contexts and goals.

¹ <https://barcelona-declaration.org/>

Review: the changing understanding of science and its relation to society

The understanding and the expectations on how research can contribute to society have significantly changed in the last decades (Gibbons, 1999). In the postwar, the dominant science policy model assumed that scientific knowledge would trickle down to technology, that technology would lead to innovation and then, that innovation would transform into well-being. The emergence of countries such as Japan or South Korea, that developed high technological capabilities without having excellent research systems challenged this perception (Schot & Steinmueller, 2018). Instead, it was realised that positive interactions between academic, industrial and social actors in the ‘innovation system’ were crucial for knowledge to translate into innovation (Fagerberg, 2004).

However, successful ‘innovation systems’ were not sufficient for innovation to lead to well-being, since many innovations actually had unexpected effects with problematic consequences for health, the environment, social equality or lifestyles. As a result, in the last 10-20 years, new models of science policy have been proposed that not only take into account the importance of interactions between academic and non-academic actors, but that also explicitly consider the social and environmental effects of research choices (Schot & Steinmueller, 2018). The effects of research and innovation on inequalities and social justice are one of the key factors to be considered when engaging in scientific endeavours with potential innovation outcomes, as discussed in the framework of ‘inclusive innovation systems’ (Arocena et al., 2018).

These changes on the understanding of the relationship between science and society and on the expectations of research impact should be translated into a change in how the research system is analysed, measured and assessed. In the case of innovation, when the OECD changed its policy models from the linear to the innovation systems, it also changed its measurement from the Frascati Manual, developed in the 1960s based on an input-output framework, to the Oslo Manual, developed in the 1990s with collaborations with firms in the centre (Smith, 2004). A similar shift is needed now, in terms of how scholarly knowledge is retrieved and described – but in terms of awareness of the implications of research for the social and territorial contexts, especially in relation to marginalised places and populations.

Given the importance of interactions between academic and non-academic actors, the description of science should aim at capturing these interactions: not only the products of research, but also the processes through which knowledge is translated and used. While this is challenging, there are some new possibilities, such as the use of social media (Wouters et al., 2019). Since languages are key in the communication of scholarly knowledge to

policy and social actors, publications in national languages should be considered and duly valued (Pölönen et al., 2021).

Also, given that the contributions of research are not equally positive in terms of the social or environmental benefits (either realised or expected), the function of measuring and assessing science should shift towards learning. What matters is not if there is more or less knowledge produced, but whether the knowledge is appropriate for the problem societal actors want to address.

Take for example, the case of *podoconiosis*, an inflammation and progressive swelling of the limbs caused by exposure of bare feet to alkalic clay in Ethiopia and Cameroon. There can be research in a variety of disciplines (genetic, immunology, geology, etc.), but some not all are equally helpful in terms of the producing solutions:

Since there is some degree of genetic susceptibility, there is genetic research into podoconiosis. However, people would not contract podoconiosis if they had shoes to wear in areas of irritant soil, and 'footwear remains an unaffordable luxury for residents of most affected areas in the tropics' (...). For want of shoes, genetic research can seem a peculiar approach to pursue. This peculiarity is not well addressed by a framework that emphasises only a misalignment between research supply and societal needs. That framework would suggest more targeted research, whereas the issue in fact relates to the kinds of research (or non-research) approaches brought to bear upon the problem. (Coburn et al., 2022)

In short, research in genetics of podoconiosis might be of interest to scientists, but in order to improve podoconiosis, one needs to understand this problem in its social and environmental context. The research information provided should sufficiently comprehensive and diverse so that broader place-based issues can be taken into account when considering the science that is needed to address a problem.

This need for context is shown, for example, when looking into the research that is potentially related to the Sustainable Development Goals (SDGs): a variety of analyses have made evident that publications cannot be univocally assigned to SDGs, as revealed by the lack of agreement across various commercial providers on the assignments of papers to SDGs (Armitage et al., 2020; Purnell, 2022). Instead, the assignment of publications to SDG should be made by stakeholders in particular places with specific values who can understand whether the knowledge in the publications is relevant in those contexts (Rafols et al., 2022).

In summary, there is an ongoing change in the relationship between science and society, and this is reflected in science policy models (Schot & Steinmueller, 2018). Such changes involve accessibility and visibility of knowledge, but also participatory processes so that citizens (including marginalised communities) can shape the plurality of ways in which science can contribute to our collective futures (Stirling, 2024).

Towards open as well as inclusive and diverse research information

Last April saw the launch of the *Barcelona Declaration on Open Research Information* (2024) as a commitment to the use of Open Information Sources by a list of renowned institutions, such as Sorbonne University in Paris, Spanish National Research Council (CSIC), the French and Dutch Funding Agencies (ANR and NWO) and the Latin American Council of Sciences (CLACSO). Its main aim is improving the free access and transparency of the scientific information used by public research organisations and universities to make strategic decisions and evaluation.

Research organisations and administration who become signatories of the *Barcelona Declaration* make commitments to use and produce *open* research information, as well as to support *open* infrastructures that facilitate it. This is a step in the direction suggested by the UNESCO Recommendation for Open Science (UNESCO, 2021, p. 34): that the monitoring of science be “supported by open non-proprietary and transparent infrastructures”.

The central motivation of the *Barcelona Declaration* is transparency in assessment and decision-making: “Open research information enables science policy decisions to be made based on transparent evidence and inclusive data. It enables information used in research evaluations to be accessible and auditable by those being assessed. And it enables the global movement toward open science to be supported by information that is fully open and transparent.”

But the *Barcelona Declaration* also emphasizes inclusiveness. This includes two aspects: that information can be accessed in ways that stakeholders can use it (the democratization of access) and that the contents of the information is pluralistic.

First, the democratisation of access implies that stakeholders can use the information with their resources and capabilities. Currently OpenAlex is technically accessible, but the database is so large (~1TB) that many organisations (including some governmental agencies in middle income countries) do not have the technical capabilities to use them. Intermediary interfaces have to be developed for this open access to be realised.

Second, the research information sources currently most widely used (Web of Science and Scopus), not only are behind paywalls but also have serious problems of coverage, especially in many countries of the global south. Therefore, alternative open infrastructures are also important in terms of achieving greater inclusion and diversity of information, as a step towards epistemic justice.

Previous studies have shown that mainstream research information services have a lower coverage in most countries in the global south (Chavarro, 2017; Vessuri et al., 2014). However, perhaps more importantly, it has been shown that this lower coverage also concerns languages (e.g. in Latin America, see (Brasil, 2021)) as well as research topics that are most relevant in developing contexts (Rafols et al., 2015, 2023).

As a result of these biases in the mainstream databases, some of the knowledge generated in the global south has lower visibility and prestige. This has implications in terms of the knowledge that is used – for example, it may be one of the factors why Africa and Asia often use more inappropriate technologies in agriculture according to some estimates (Moscona & Sastry, 2021).

Following these observations, Research Information Sources should not be only “open” in the sense of being accessible. They also need to be “open” in the sense of being inclusive and diverse in their epistemic contents. The bibliographic database OpenAlex², which is currently the main “open” alternative to the mainstream databases, has indeed a much wider coverage than mainstream (Visser et al., 2021), as shown in Figure 1. However, OpenAlex has important gaps, for example for countries with lower usage of DOIs – a fact that is sometimes related to lack of resources in local journals (as in Argentina) as well as broader geopolitical factors such as economic sanctions, as in Cuba (Bezuidenhout et al., 2019).

² <https://openalex.org/>

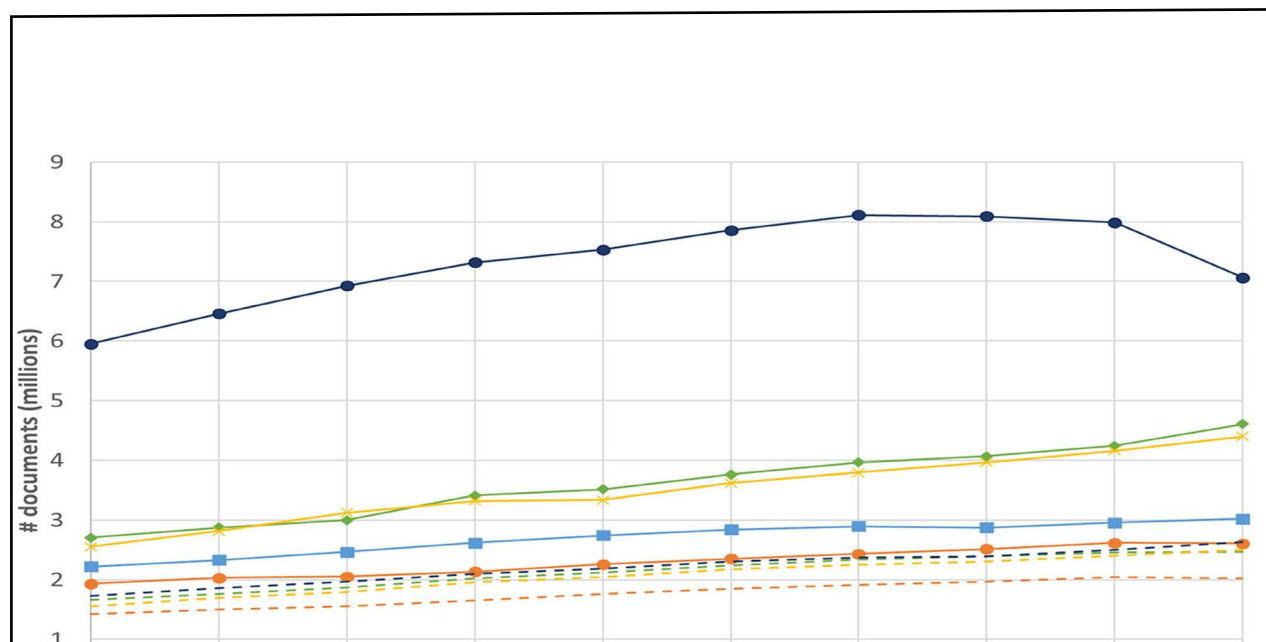


Figure 1. Number of publications per year by data source. Breakdown by publication year for all documents in each data source (solid line) and for the overlap with Scopus (dashed line). OpenAlex builds on the discontinued database Microsoft Academic. Source: Visser et al. (2021).

Therefore, we propose that alternatives to the commercial services should aim at decentralised and federated infrastructures for Research Information Sources as illustrated in Figure 2, including efforts such as OpenAlex, but also regional efforts such as Redalyc and Scielo in Latin America or AJOL (African Journal OnLine).

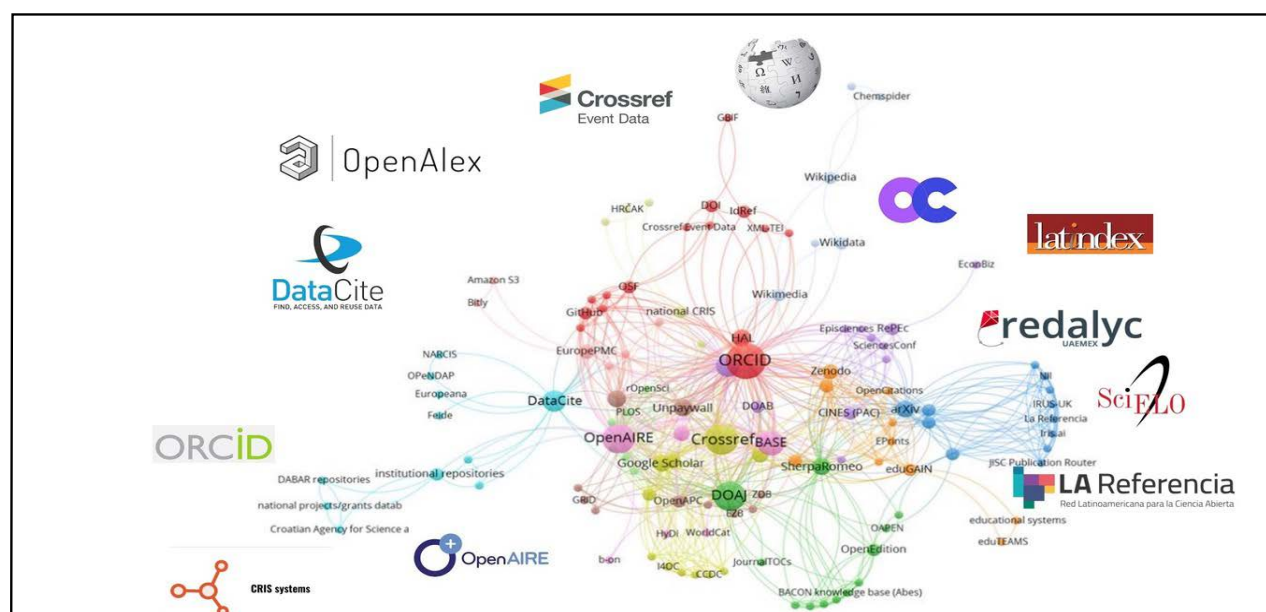


Figure 2. An illustration of a potential federation of open research information sources, with some prominent open research information sources. Based on Ficarra et al. (2020).

The federation of infrastructures have several advantages (Babini et al., 2024). In the first place, federation allows the capture of scientific outputs that are registered by regional databases in the global south and not covered in mainstream databases. Second, metadata of regional databases may in some cases be deeper and more attuned to specific regional contexts. Third, decentralised infrastructures allow more epistemic pluralism, thus avoiding the danger that the choices of larger or dominant scientific groups are adopted by default (e.g. in classifications).

The challenge of decentralised and federated infrastructures is the complexity of combining them to conduct analysis. Federative platforms need to be developed for the integration to benefit users of bibliometrics.

In a recent blogpost, we illustrated how such federation and democratization could be achieved in an open and collaborative manner (Mazoni & Costas, 2024). In the context of the project InSySPo³, developed at the University of Campinas (Brazil) using cloud computing technology (Google BigQuery (GBQ)), we demonstrated how it is possible to publicly make available a whole range of open data sources, including but not restricted to OpenAlex, SciELO, ORCID or Brazilian CAPES data. These data sources combined in this platform are freely available to anybody with a GMAIL account. They can be accessed through the following link: <https://console.cloud.google.com/bigquery?project=insyspo>.

This “Campinas experience” offered valuable insights into the importance on how the democratization of access to open research information systems can be achieved. A key lesson is the importance of making open data not only available but also accessible and usable to broader communities, a point usually overlooked in open science debates, that typically focus on the “open” component of data and infrastructures, but then overlook the communities that need or would benefit the most from such infrastructures (e.g. policy makers, science journalists or research managers).

The project demonstrated that cloud-based solutions like Google BigQuery could significantly lower the barriers to accessing and working with large, complex datasets, which require advanced technical skills and infrastructure. The Campinas experience also showed how it is possible to avoid resource-intensive (and expensive) processes of setting up physical servers, by enabling quicker deployment and easier access, especially for those with limited resources. Additionally, the possibility of making datasets publicly available through platforms like Google BigQuery highlighted the potential for widespread collaboration and data reuse across diverse user groups.

The experience also called attention to the need for training and capacity building to

³ <https://www.ige.unicamp.br/insyspo/>

empower users with the necessary skills to work effectively with open data, ensuring that a broader range of stakeholders can benefit. Our experience also emphasized the need for sustainability and collective action, advocating for collaborative efforts in sharing costs, platforms and data contributions, and developing common standards to ensure the long-term viability and expansion of open research information systems.

In the evolving landscape of open research information systems, broadening the scope of inputs and integrating a wider array of data sources is essential. By incorporating diverse bibliographic databases, such as regional platforms like SciELO or Redalyc, alongside global platforms like OpenAlex, we enrich the ecosystem of open research data. This inclusion of regional databases allows for a more comprehensive understanding of scientific activities, especially in regions that are underrepresented in centralized databases. The federation of multiple data sources further enhances this inclusivity by integrating various systems, each contributing unique perspectives and types of data richness.

Such a federated approach not only contributes to the democratized access to research information, but it also encourages wider participation, ensuring the data landscape is more representative of global research outputs and activities. Moreover, relying on a variety of data sources contributes to richer metadata, offering a detailed and nuanced view of research activities. For example, integrating data from Wikipedia or social media platforms can provide insights into the societal impact of research, while linking funding information can reveal the financial dynamics behind research initiatives. Each new form of data, whether from social media, Wikipedia, or funding sources, adds valuable perspectives that deepen our understanding of the research ecosystem.

However, this expanding landscape of open research data must overcome major challenges. One significant challenge is the potential for big data to narrow rather than broaden the scope of research. While big data holds promise, its vastness can overshadow smaller, localized datasets that offer critical insights into specific contexts. The focus on big data can sometimes prioritize mainstream perspectives, potentially silencing the diversity of perspectives that smaller, more specialized datasets can provide. Thus, it is crucial to balance the richness and diversity of data with the need for integration and accessibility. By federating databases and linking various types of data, we can build a more comprehensive and democratic open research information system that remains inclusive in both its content and its accessibility. Ensuring that big data empowers rather than constrains our understanding will be key to fostering a truly open and diverse research landscape.

Multiple perspectives for contextualising and valuing information on science and technology

Making research information more comprehensive and inclusive is necessary but it is not enough in order for knowledge to contribute to social justice. A few more steps are needed. Knowledge that is relevant but is not highly visible because it is not mainstream should be made visible. Both quantitative and qualitative methods should be developed for fostering appropriate contextualisation. The knowledge should be shown to users and beneficiaries in ways that allow exploration and querying of the data, so that they can tell which descriptions or indicators are relevant according to their contexts and values (places, spaces, preferences, worldviews).

This can be achieved with the help of research metrics and indicators, but indicators need to be created and used in ways that differ from current conventional practices. While the use of indicators is generally associated with a reduction of diversity and lack of contextualisation that effectively closes down debate, one can argue that:

“...indicators can also be used to help support more plural evaluation and foster more productively critical debate. In order to achieve this shift, it is necessary equally to change understandings, forms and uses of indicators in decision making. These shifts involve, first, broadening out the range of ‘inputs’ taken into account; and second, opening up the ‘outputs’, in the sense of developing methodologies for indicator-based analyses to help in considering plural perspectives. In practice, this means a move towards more situated and participatory use of quantitative evidence in evaluation, a shift from universal *indicators* to contextualised *indicating*.” (Rafols & Stirling, 2021)

In other words: on the side of input data, having fully accessible and more inclusive data that allow more analytical dimensions is necessary in order to be able to portray research in a more pluralistic and contextualised way, as seen in the previous sections. But, as shown in Figure 3a, if this information is then crunched into composite indicators (i.e. unidimensional indicators), there might not be a gain in pluralism. For research information to lead to more pluralistic insights, one has to consider the effect of the outputs of analyses in decision-making. Do the outputs of the analyses allow consideration of a variety of perspectives? What is the degree of contextualisation of the data? Is the method participatory? Are stakeholders empowered to contrast the different data sources or analytical approaches to adapt the analyses to their contexts, preferences and values? If the answer is positive, the analysis is helping in ‘opening up’ the appraisal process, helping the analysis shift towards the right in Figure 3b. Since the issues and the perspectives of marginalised territories or communities are most often invisible or less visible, issues of social justice related to

research are expected to benefit from these analytical practices that allow contextualisation.

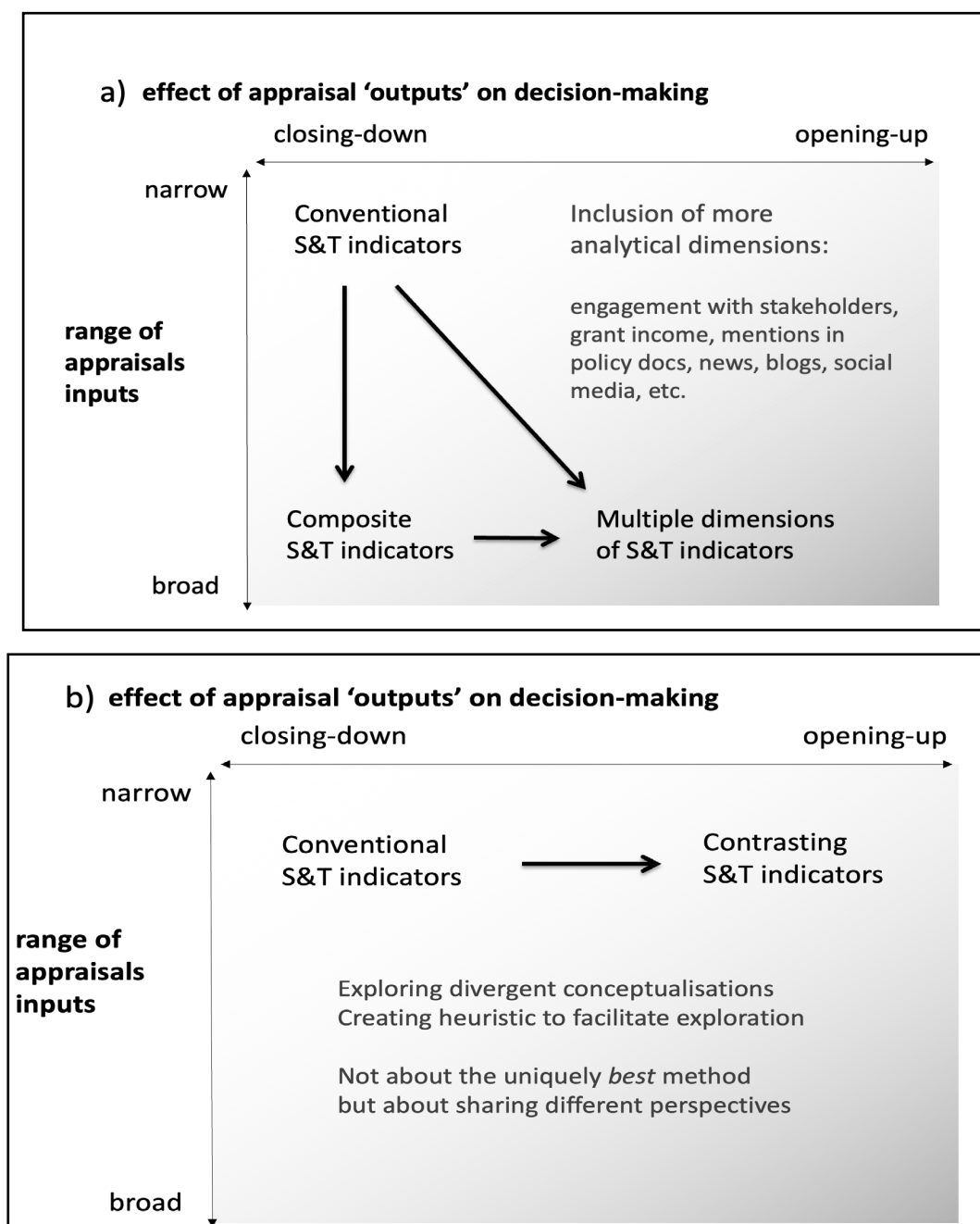


Figure 3. Schematic representation of the type of shifts towards more plural use of research indicators

a) Inclusion of more inputs, covering different analytical dimensions, broadens the scope of information used. This leads to a pluralisation of perspectives (an 'opening up') when these different dimensions are shown explicitly. However, this does not lead to significant 'opening up' when this is followed by aggregative techniques such as composite indicators.

b) Another route to 'opening up' is to create contrasting indicators of the same analytical dimension under consideration, e.g. according to degree of contextualisation, of which convergence or divergence of insights can be discussed. Source: Figure 3 in Rafols & Stirling (2021).

An example of this is the role of SDGs in research. As mentioned before, the relationship between research and SDGs is complex, uncertain and often ambiguous: in some contexts, a scientific contribution may foster a certain goal such as water management, but this knowledge may not apply in other contexts, or according to different values. This often happens in issues such as water or agriculture that differ even across small territories, or where preferences over private or collective management have an impact on which information is relevant.

Therefore, in the face of a request to provide information on (or to ‘measure’) the relationship between research and SDGs, we think that it is not a good option to provide a unique list of papers, or an associated indicator, as currently done by commercial database providers.

Instead, we propose that the task of open information infrastructure should be to empower users and beneficiaries to participate in the analysis by bringing in their contexts and values and judge by themselves.

To do so, the project STRINGS⁴ produced a map (Figure 4), in which stakeholders can explore the various types of research lines for a given SDG and judge and choose which ones are relevant. As illustrated in Figure 4, the map shows the research areas according to their position in the global research landscape. Proximity between dots signals cognitive similarity among research areas. The tables on the right hand-side list the main disciplinary categories, keywords and specific reviews for the research areas selected. The users can select areas by clicking over one circle or group of circles. Since there is no consensus on the relationship between research and SDGs, we propose the tool to be used in an exploratory manner as different stakeholders may interpret research and SDGs in different ways.

In particular, we suggest each user to make their own selection of research areas, according to those areas that fit with their own contexts and understandings. Such discussion is relevant because some researchers may claim that their research supports a given SDG, but stakeholders may think that claim to be unfounded. For example, biotechnologists developing genetically modified crops can claim to be useful to alleviate hunger (SDG2), but development economists and small farmer collectives may consider this claim without foundation.

⁴ See <https://strings.org.uk/> for the whole project, and <https://www.cwts.nl/strings> for the interactive visualisation.

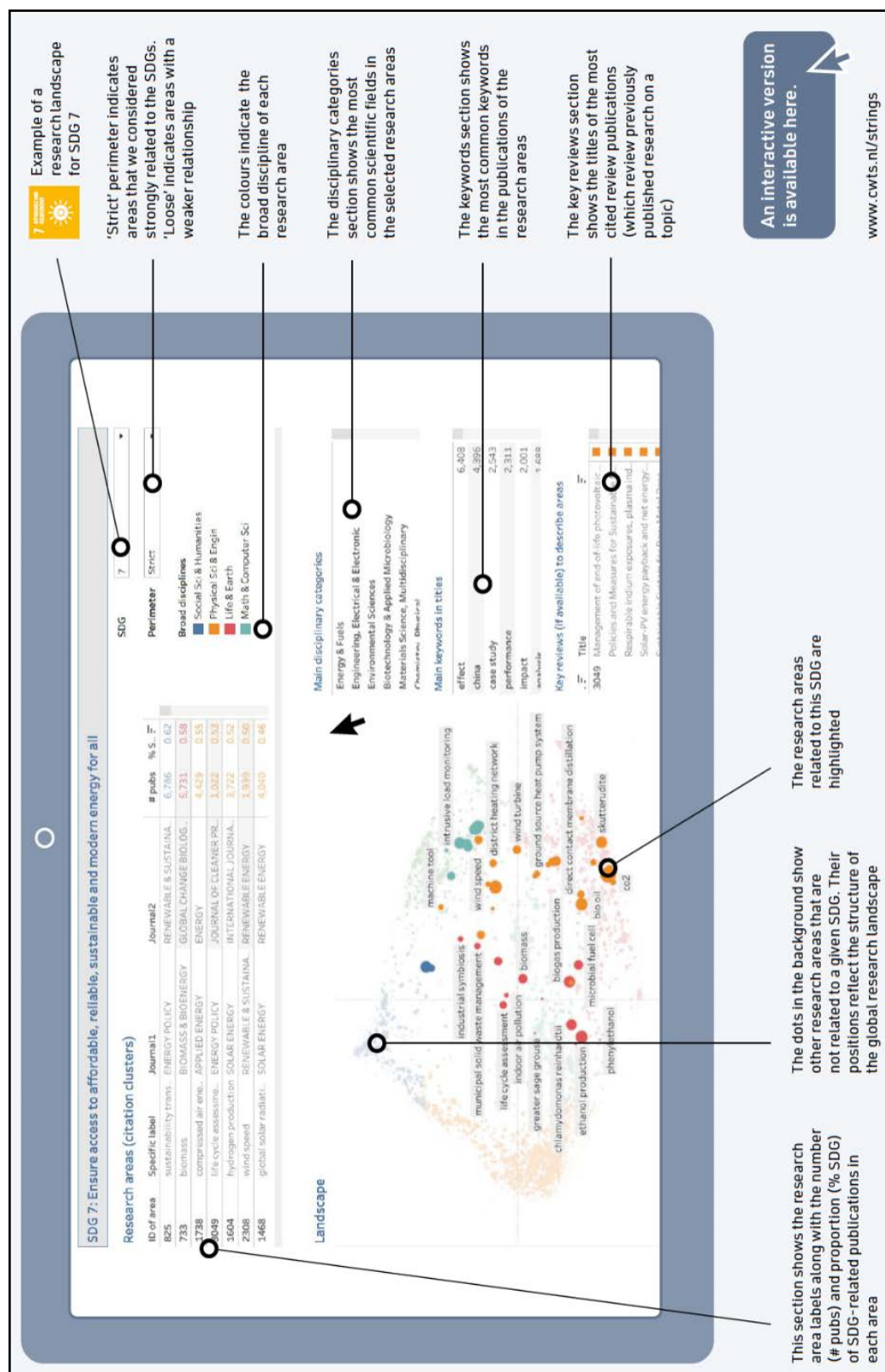


Figure 4. Interactive visualization of the research landscape for SDG 7 (Affordable and clean energy). This type of visualization allows users to create their own mapping of scientific research to the SDGs. Users can adjust settings to identify research areas that are potentially relevant for each SDG. Source: (Rafols et al., 2022)

Towards the multiversatory: a research observatory with multiple perspectives

One of the key goals of the work we are conducting in the *UNESCO Chair on diversity and inclusion in Global Science*⁵ in Leiden University is to develop an analytical framework for a scientometrics or ‘science of science’ that supports inclusion, diversity and pluralism in science. We propose to shift the type of analysis from a unique and therefore implicitly universal and prescriptive description, towards analyses that produce descriptions of science that are conditional on the needs and contexts of applications.

It is well understood in the social sciences that social, cultural and historical knowledges are situated in certain places and times and therefore their robustness depends on context. This applies as well to other scholarly knowledge in disciplines such as agriculture, medicine or engineering, in which robustness of applications depends on the local conditions, including the values and cultural background of local populations. Equally, for research to contribute to social justice, scientometric analyses need to be able to produce descriptions that are appropriate to specific contexts and values. Given that the participation of stakeholders in the analyses is crucial for these perspectives to be realized, this requires research information analyses that are open, in the multiple understandings discussed above.

In this essay, we propose that this openness in research information concerns several dimensions. In the first place, research information should be open in the sense of being transparent and accessible. Second, research information should be open in the sense of being inclusive and diverse. Inclusiveness has two dimensions: that stakeholders not only can reach it, but that they can actually use it, and that the contents include different forms of knowledge – not only the certain types of outputs. Third, the research information should be provided in forms that empower interrogation by stakeholders, so that they can retrieve and construct the descriptions of research that are more appropriate for their context. This last step implies efforts to make visible many scientific contributions from the global south which are currently invisible (Beigel, 2014; Vessuri et al., 2014).

We call this vision *the multiversatory*: an approach to observe science that facilitate a pluralistic analysis of the knowledge created across a variety of places and contexts, the pluriverse (Escobar, 2018). We think of the multiversatory as a *living lab* consisting both of research information infrastructures and participatory processes of the stakeholders engaged in producing a particular description of research. In the first place, the multiversatory will allow using different data sources or different filters on the data sources. For example, in describing a university: what are the main topics when using as filter local, national

⁵ <https://www.cwts.nl/research/unesco-chair-on-diversity-and-inclusion-in-global-science>

or international journals? Or as most cited by local or international databases (Lopez Pineiro & Hicks, 2015)? Or according to English versus the local language? Second, the multiversatory will facilitate a more fluid exploration of research in dimensions of visibility such as funding (Overland et al., 2022), policy mentions (Fang et al., 2024) or press-releases (Zhang et al., 2024). Third, the emphasis on diversity of the multiversatory will allow to compare across research topics, thus allowing to see which topics are relatively understudied, a key concern in terms of geographical inequalities in science (Boshoff et al., 2024; Kumar et al., 2024; Yegros-Yegros et al., 2020).

The key development of the multiversatory (yet to be proven) will be the possibility by the users of using multiple filters and classifications according to conditional choices. A major challenge will be to support stakeholder using the research information platforms to make these choices in an informed way, so that for a given policy question, relevant sources and filters are selected in the face of a broad palette of choices. We expect that new categories of topics and new analytical lenses will need to be developed in order to address questions posed through the engagement of stakeholders. Through this pluralistic approach to 'science of science' we hope that stakeholders can be supported in mobilising the knowledge more appropriate for each of them and thus work effectively towards social justice.

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La diversidad en las publicaciones más allá de la lingua Franca de la ciencia: el caso de una mega-revista

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Resumen

Este estudio analiza las experiencias y perspectivas de los editores académicos de la mega-revista PLOS ONE en torno a las implicaciones de utilizar el inglés como única lengua de publicación. A través de entrevistas con 21 editores de diversas disciplinas científicas y regiones geográficas, se identificaron las tensiones que surgen entre la misión inclusiva de la revista y las barreras lingüísticas que enfrentan los autores no anglófonos. Los hallazgos revelan que, aunque la revista prioriza la solidez científica sobre la calidad lingüística, la falta de competencia en inglés sigue siendo un obstáculo que puede llevar al rechazo de manuscritos. Además, el acceso limitado a servicios editoriales para mejorar la legibilidad en inglés, especialmente en el caso de autores de países de ingresos bajos y medios, agrava estas desigualdades. Se discuten las contradicciones inherentes al modelo de mega-revista, donde el cobro de tasas de publicación (APCs) y la falta de apoyo lingüístico para los autores no se alinean con la propuesta de inclusividad. Finalmente, se proponen recomendaciones para promover la equidad y la diversidad lingüística en la publicación académica, incluyendo la implementación de políticas que faciliten el multilingüismo y la participación equitativa de investigadores de todas las regiones y contextos lingüísticos.

Palabras clave: revistas académicas, lingua franca, mega-revistas, editores académicos; multilingüismo

Abstract

This study explores the experiences and perspectives of academic editors of the mega-journal PLOS ONE on the implications of using English as the sole language of publication. Through interviews with 21 editors from a range of scientific disciplines and geographic regions, we identify the tensions that arise between the journal's inclusive mission and the language barriers faced by non-English-speaking authors. The findings reveal that, although the journal prioritises scientific soundness over linguistic quality, lack of English proficiency remains a barrier that can lead to manuscript rejection. Furthermore, limited access to editorial services to improve readability in English, especially for authors from low- and middle-income countries, exacerbates these inequalities. The contradictions inherent in the mega-journal model are discussed, where the charging of publication fees (APCs) and the lack of language support for authors do not align with the inclusivity proposition. Finally, recommendations are proposed to promote equity and linguistic diversity in academic publishing, including the implementation of policies that facilitate multilingualism and the equal participation of researchers from all regions and linguistic contexts.

Keywords: academic journals, lingua franca, mega-journals, academic editors; multilingualism

Introducción

La producción de revistas científicas en el siglo XXI es una tarea muy compleja para cualquier editorial académica. La presión para publicar artículos con rapidez y al mismo tiempo respetar normas de alta calidad aumenta a medida que los sistemas académicos de todo el mundo se basan gradualmente en las publicaciones para evaluar la contribución de los científicos a la producción de conocimientos (STM, 2021). A ello se le suma la *inglesificación* de la publicación académica a nivel global, es decir, el uso extendido del inglés como *lingua franca* de la ciencia (Sivertsen, 2018). Este artículo analiza las perspectivas de los editores de la mega-revista PLOS ONE acerca de la calidad de la escritura en inglés de los manuscritos que evalúan para la revista¹.

A principios de la década de 2010 surgieron las mega-revistas, principalmente en las áreas de ciencia, tecnología, ingeniería y matemáticas (STEM). Estas revistas se anunciaban como una opción rápida e imparcial para publicar investigaciones, sin tener en cuenta el nivel de innovación de los artículos, lo que propició su rápido crecimiento (Björk, 2015; Eve et al., 2021).

¹ Parte de estos resultados fueron presentados en mi tesis doctoral (Lujano Vilchis, 2023).

Una de las características clave de las mega-revistas era su alcance global, siendo el inglés la única lengua de publicación admitida. Sin embargo, debido al carácter internacional de estas revistas, los autores, editores y revisores proceden de entornos diversos en los que el inglés no siempre es la lengua principal de comunicación (Gobbo & Russo, 2020; Ioannidis et al., 2023; Siler et al., 2020; Wakeling et al., 2017) lo que propicia algunas tensiones que analizamos en este artículo.

El trabajo se centra en dos resultados de un estudio de caso de la mega-revista PLOS ONE. En primer lugar, la relativa facilidad para los editores de separar la calidad de la escritura de la calidad del contenido científico cuando toman una decisión editorial. En segundo lugar, las limitaciones presupuestarias de muchos autores no nativos del inglés para publicar artículos, incluyendo la capacidad de contratar servicios editoriales. Al final se presentan algunas recomendaciones para mega-revistas y otras revistas internacionales que interactúan con autores y revisores de diferentes países.

Problema de investigación

Apelar a la comunicación en un único idioma puede perjudicar especialmente a los actores que no suelen utilizar el inglés para comunicarse habitualmente, desde los autores y editores de las publicaciones hasta los propios lectores (Amano et al., 2023; Canagarajah, 2002; Gobbo & Russo, 2020; Kulczycki et al., 2020). Particularmente entre los editores, ello puede representar retos importantes para tomar decisiones sobre la publicación de manuscritos. Si bien su labor se centra en la evaluación de la calidad de ciencia presentada (los argumentos, las metodologías, los resultados, etc.) puede ser difícil ignorar la calidad de la escritura pues ello puede determinar la claridad de los argumentos y evidencias científicas.

Por otro lado, en la mayoría de las revistas, los consejos editoriales están conformados por académicos con una reputación académica sobresaliente, en términos de su rendimiento académico y productividad, así como su integridad en la evaluación de la producción académica de otros colegas (Shapiro & Bartunek, 2008; Topaz & Sen, 2016; Zuckerman & Merton, 1971). En otras palabras, los puestos de editor se asignan presumiblemente en función de los méritos, especialmente en revistas publicadas por sociedades científicas e instituciones de enseñanza superior. Sin embargo, múltiples estudios demuestran que los puestos de editor se asignan desproporcionadamente a académicos (en su mayoría hombres) de sociedades occidentales, educadas, industrializadas, ricas y democráticas (WEIRD, por el acrónimo en inglés) donde el inglés suele ser el idioma principal de comunicación, o bien, cuyo dominio alto, lo que potencialmente conduce a entornos de investigación discriminatorios y excluyentes (Bhaumik & Jagnoor, 2019; Goyanes, 2020; Jagsi et al., 2008; Metz et al., 2016).

Esto podría reforzar las asimetrías globales existentes en el panorama de la producción de conocimientos, profundizando la brecha entre el Norte Global y el Sur Global (Knöchelmann, 2021).

Es de destacar que la editorial PLOS adhiere explícitamente a la ciencia abierta y para ello implementa políticas editoriales, por ejemplo, en torno a la disponibilidad de datos, software y código (PLOS, 2024). No obstante, estas prácticas apuntan principalmente a la reproducibilidad y el acceso a la ciencia. Desde 2021, PLOS estableció objetivos en torno a la Diversidad, Equidad e Inclusión (DEI) (PLOS, 2023b) que coinciden con las principales definiciones de ciencia abierta; sin embargo, es notable la ausencia de alguna mención sobre la inclusividad en la producción de conocimiento vía el multilingüismo; este es un tema claramente ausente en su agenda.

La representación desigual de los académicos en los puestos editoriales de las revistas podría obstaculizar la pluralidad epistémica (Longino, 2018). Al ser principalmente los miembros de un grupo dominante homogéneo quienes dirigen los procesos de control, es más probable que los resultados de las publicaciones reflejen los intereses, valores y lenguas del mismo grupo, dejando fuera a los de otros grupos y manteniendo las jerarquías sociales (Harding, 1991). Estos desequilibrios amplían potencialmente las brechas en la producción globalizada de conocimientos (Knöchelmann, 2021). Este trabajo pretende abordar esta problemática analizando el caso de PLOS ONE al ser ésta una mega-revista con un alto nivel de participación internacional de autores y editores de ciencias y medicina.

Revisión de literatura

Las Mega Revistas de Acceso Abierto (OAMJ, por sus siglas en inglés) surgieron como una «innovación potencialmente disruptiva» en el panorama mundial de la publicación académica a principios de la década de 2000 (OAMJ Project, 2017). Se crearon como un modelo de publicación alternativo a las revistas convencionales, altamente selectivas. Una de las misiones declaradas de las OAMJ es publicar tantos manuscritos como sea posible mediante (1) la ampliación del alcance de la publicación, es decir, cubriendo varios campos con un claro énfasis en la ciencia, la tecnología y la medicina (STM); y, lo que es más importante, (2) llevando a cabo un proceso de control de calidad basado en un criterio de «solidez científica únicamente» en lugar del impacto potencial percibido, la novedad o la relevancia del manuscrito, que es una característica distintiva de la revisión por pares en las revistas convencionales (Björk, 2015; Spezi et al., 2017).

El criterio de «solidez» utilizado en las OAMJ se refiere a la «precisión metodológica, coherencia e integridad» de los manuscritos (Spezi et al., 2018, p. 141). Las OAMJ buscan publicar un número significativo de manuscritos que cumplan con los requisitos técnicos y éticos mínimos de la investigación científica- lo que en última instancia busca reducir los sesgos en el proceso de revisión- «dejando que la comunidad decida» sobre la relevancia de los trabajos a través de mecanismos como la revisión post-publicación. En consecuencia, las OAMJ tienen tasas de aceptación más altas (50-70%) que las revistas altamente selectivas (10-15%) (Björk, 2015; Sugimoto et al., 2013). También publican una multitud de temas en varias disciplinas y subdisciplinas, una variedad de metodologías, hallazgos e incluso resultados negativos y estudios de replicación (Spezi et al., 2018).

El modelo de negocio de las OAMJ es muy cuestionado, especialmente por el cobro de tasas de publicación a los autores (Article Processing Charges o APCs) para cubrir los costes de cada artículo (Binfield, 2013). Sin embargo, estas revistas han demostrado ser valiosos lugares de publicación para autores internacionales, en particular de muchas disciplinas diferentes de STM, desempeñando así un papel esencial en el producto global del conocimiento.

Para publicar la gran cantidad de artículos citados anteriormente, las OAMJ requieren una plantilla de editores y revisores de diferentes procedencias académicas, formación, campos de especialización, niveles de experiencia y similares. El tamaño de los consejos editoriales de las OAMJ es mucho mayor que el de las revistas convencionales. Por citar un ejemplo, la revista PeerJ, considerada una mega-revista de tamaño medio (Björk, 2018) cuenta con más de 400 editores académicos, incluyendo editores de sección que dirigen el proceso editorial dentro de las 20 secciones (Hoyt, 2018).

Algunas de las tensiones organizativas y los desafíos a los que se enfrentan las OAMJ en la gestión de estos grandes equipos de expertos han sido explorados por Wakeling et al. (2017). En un estudio cualitativo, basado en entrevistas con editores y editores de OAMJ, los autores encontraron que los desafíos operativos, culturales y técnicos de dirigir una OAMJ requieren una alta inversión en recursos humanos e infraestructura. Otros estudios han señalado el papel de los editores en la supervisión de un modelo de revisión por pares que pretende ser más inclusivo que el control de calidad en las revistas convencionales (Björk & Catani, 2016; Buriak, 2015; Erfanmanesh & Teixeira da Silva, 2019; Spezi et al., 2018; Teixeira da Silva et al., 2019). Sin embargo, poco se ha discutido sobre el uso de la *lingua franca* en los comités editoriales por lo que en alguna medida estos siguen siendo una caja negra en la gobernanza de la ciencia (Latour, 1999).

Metodología

Para profundizar en este tema, estudié el caso de la mega-revista PLOS ONE, dirigida por una organización sin ánimo de lucro con sede en EE.UU. Publica, en promedio, 16.000 documentos al año (Scopus, 2023). PLOS ONE utiliza una frecuencia de publicación continua, es decir, los artículos se publican en el sitio web una vez finalizados los procesos de revisión por pares y de formato. Según la base de datos Scopus, la revista ha publicado 278,319 documentos desde su lanzamiento en 2006 hasta el 1 de marzo de 2023 (Scopus, 2023). Los artículos de investigación son los principales tipos de contribuciones publicadas (94,6%). En cuanto al ámbito de publicación de la revista, el sitio web afirma: «PLOS ONE acepta investigaciones en más de doscientas áreas temáticas de la ciencia, la ingeniería, la medicina y las ciencias sociales y humanidades relacionadas» (PLOS ONE, 2023c). A pesar de esta variedad de disciplinas, hay dos áreas altamente representadas: Bioquímica, Genética y Biología Molecular (23,8%) y Ciencias Agrícolas y Biológicas (23%). El resto de trabajos publicados (52,5%) se clasifican como Multidisciplinares (Scopus, 2023).

El consejo editorial de la revista está formado por más de 10,000 académicos de todo el mundo. Realicé entrevistas semiestructuradas a 21 editores académicos (EAs) de distintos campos científicos, como la biología y las ciencias de la vida, la química, la medicina y las ciencias de la salud, la física y las ciencias sociales. Los editores pertenecen a instituciones de investigación de 14 países.

Utilicé el método de muestreo aleatorio estratificado para garantizar la representación geográfica de los editores en mi muestra. En primer lugar, descargué la lista de los 8.927 miembros del Comité Editorial el 31 de octubre de 2022. A continuación, identifiqué las regiones en las que radican los EAs y los Editores de Sección² siguiendo la clasificación de países del Banco Mundial³. Utilicé las regiones como estratos para identificar posibles diferencias regionales en las experiencias de los editores que pudieran ayudar a responder a mis objetivos de investigación.

También utilicé el género de los EAs como criterio adicional de selección de los participantes para garantizar una representación más completa y matizada de los editores

² De acuerdo con PLOS ONE: «Los editores de sección de PLOS ONE son expertos en los campos de investigación a los que pertenecen, con experiencia en el proceso de revisión por pares, embajadores de la ciencia abierta y participantes activos en sus comunidades. Sirven como asesores del personal de la revista en su sección correspondiente, trabajando en temas especiales, incluyendo el desarrollo de políticas y directrices para la presentación de informes.» (PLOS ONE, 2023c)

³ Asia Oriental y Pacífico, Europa y Asia Central, América Latina y Caribe, Oriente Medio y Norte de África, América del Norte, Asia Meridional y África Subsahariana.

en la muestra. El género se asignó utilizando la herramienta digital Gender API, un servicio para predecir el género probable de una persona utilizando su nombre y apellidos. Asigné a cada editor un número aleatorio en una hoja de Excel y los clasifiqué por regiones. Tomé los diez primeros editores de cada región, busqué su información de contacto y les invité a participar en el estudio. Si no respondían, tomaba el siguiente registro y repetía los pasos. La Tabla 1 muestra los datos de la muestra de editores entrevistados.

Tabla 1: *País y afiliación institucional de los editores académicos entrevistados*

Institución	País	Número
Arizona State University	Estados Unidos	2
Georgetown University		1
Indira Gandhi Medical College	India	1
Karolinska Institutet	Suecia	1
Liverpool John Moores University	Reino Unido	1
Seoul National University	Korea	1
Shahjalal University of Science and Technology	Bangladesh	1
Stellenbosch University	Sudáfrica	1
Tribhuvan University	Nepal	1
Universidad de Monterrey	México	1
Universidad Nacional Autónoma de México		1
Universidad Rey Juan Carlos	España	1
Universitat Politècnica de Catalunya		1
Universidade de São Paulo	Brasil	1
Universidade Estadual de Ponta Grossa		1
Universidade Regional do Noroeste do Estado do Rio Grande do Sul		1
University of Ibadan	Nigeria	1
University of Montreal	Canadá	1
University of New South Wales	Australia	1
University of Queensland		1

Cabe señalar que intenté incluir algunos editores de China en mi muestra, ya que es el quinto país con más editores en PLOS ONE. Sin embargo, a pesar de las múltiples invitaciones y recordatorios que envié a los editores, no recibí respuesta.

Seguí la sugerencia de una participante coreana. Me advirtió de que muchos chinos carecen de confianza en sí mismos cuando se trata de sus conocimientos de inglés, especialmente en lo que respecta a las interacciones orales. Me sugirió que les enviara un correo electrónico ofreciéndoles la opción de responder sólo por correo electrónico, cosa que hice. Aun así, ninguno de los invitados contestó. Desde que obtuve la aprobación del IRB para mi estudio (noviembre de 2022), envié alrededor de 200 correos electrónicos de invitación y recordatorios. Realicé las entrevistas entre noviembre de 2022 y abril de 2023.

De las 21 entrevistas que realicé, 17 fueron en inglés. Aunque los participantes eran angloparlantes, la mayoría de los latinoamericanos y una participante española manifestaron su preferencia por hablar en sus lenguas maternas (español y portugués). Accedí a esa solicitud ya que, de acuerdo con Welch y Piekkari (2006), esto ayuda a establecer una relación y una sensación de conexión con los entrevistados. Analicé esos datos manteniendo el idioma original en el que se realizaron las entrevistas, las cuales se realizaron a través de la plataforma de conferencias Zoom. Utilicé la función de transcripción automática de audio de este software para obtener archivos de texto para un análisis temático.

Resultados

“Es relativamente fácil mantener el dominio del idioma separado del contenido científico”: mínimo de legibilidad como criterio de publicación

Este primer hallazgo alude a la relativa facilidad para los editores de distinguir entre la calidad de la escritura en inglés y la calidad del contenido científico y cómo abordan el tema a la hora de tomar una decisión editorial. En las entrevistas, los EAs cuya lengua materna no es el inglés mostraron empatía con las limitaciones en el dominio del inglés que presentan algunos autores, especialmente de regiones o países no anglófonos.

Al haber experimentado la misma necesidad de publicar en inglés a lo largo de sus carreras, los editores reconocieron la dificultad que implica la escritura en un segundo idioma. La alta frecuencia de expresiones de empatía en los relatos de los participantes puede estar relacionada con la diversidad geográfica, ya que la mayoría de los EAs que entrevisté son de países diferentes a Estados Unidos, donde se edita la revista. Los EAs reconocieron que su propio nivel de dominio del idioma para la escritura académica no es el más alto y que con cierta frecuencia acuden a sus pares o incluso estudiantes para ayudarles con la corrección de estilo de sus manuscritos. Así lo relató una editora de Canadá:

Soy francófona, así que no soy perfecta en inglés, pero si no puedo entender lo que hay [en los manuscritos] [risas], si hay tantos errores que no puedo entender lo que está escrito, entonces no lo enviaré para que lo revisen. De

hecho, para mí es un reto. Tengo la suerte de que en Montreal hay muchos angloparlantes, así que tengo colegas que son angloparlantes nativos y están dispuestos a hacer las pruebas de idioma de los manuscritos. Tengo estudiantes que son incluso mejores que yo [risas]. (Editora Académica de biología, Canadá).

Otro editor comentó también: “(...) el inglés no es la realidad en este país. Muchos trabajos vienen con dificultades. Aunque no domine el inglés, tenemos dificultades para trabajar con un idioma universal, que no es nativo ni para los que lo leen ni para los que lo revisan, pero que entendemos, ¿sabes?” (Editor Académico de biología, Brasil). Es decir, al mismo tiempo que reconocieron sus propias limitaciones y las de los autores, los EAs enfatizaron que un mínimo de dominio para lograr legibilidad es necesario en cualquier manuscrito que se presenta a una revista internacional y, por lo tanto, esa responsabilidad es principalmente del autor. Como resume este testimonio:

No soy nativo inglés, así que mi inglés no es el mejor del mundo. Pero recibí artículos de China y de Japón que incluso yo podría saber que el inglés no era bueno. Los resultados están bien. Pero el inglés no era bueno, y yo no podía corregirlo, porque no soy un hablante nativo de inglés. Así que pude leer y decir, oh, este inglés es diferente de lo que leí en otros artículos de una persona de habla inglesa, es mucho más fácil de entender. Y este artículo no está bien escrito, aunque los resultados están bien. Entonces, ¿qué haces? ¿Lo aceptas o lo rechazas? (Editor Académico de medicina, Brasil).

Por otro lado, los entrevistados mencionaron varias veces el hecho de que para PLOS ONE el criterio de solidez científica está por encima de la calidad de la escritura, con lo cual, como dijo un editor “es relativamente fácil mantenerlo [la falta de dominio de la lengua inglesa] separado del contenido científico” (Editor Académico de física, Estados Unidos). En otras palabras, sólo cuando el inglés es demasiado deficiente o “las frases ni siquiera tienen sentido”, como mencionó una EA, los manuscritos son rechazados sin posibilidad de envío para los revisores pares. Sin embargo, estos casos son inusuales debido a que los editores que son parte del equipo editorial de la revista hacen una revisión de la calidad de la escritura durante la fase de chequeos técnicos. Durante esta fase se les puede pedir a los autores que vuelvan a presentar los manuscritos en caso de que se considere que la ciencia es sólida y se puede entender, pero es necesario que el autor tome las medidas necesarias para que su manuscrito sea legible y esté listo para el reenvío.

En síntesis, los editores mostraron empatía por los autores no nativos con retos en la escritura en inglés a la vez que reconocieron que su evaluación se basa en la solidez, tal como lo indica la revista.

El siguiente testimonio de un editor de medicina resume este hallazgo:

Siempre [tomo una decisión editorial] basado en primer lugar en que los resultados sean confiables, en que, en términos generales, el proyecto está bien realizado (...) quizá las exigencias en algunas otras cosas son menos trascendentes, como a veces sucede con la escritura del inglés. Yo no quiero un inglés perfecto, si yo lo entiendo...yo no hablo un inglés perfecto, ni mucho menos lo escribo. Si yo lo entiendo y me parece que el inglés es lo suficientemente adecuado para que lo entienda cualquiera que más o menos domine el idioma, no me voy a preocupar si se equivocó en una o dos palabras. Y eso es algo que también como autor lo ves, o sea, en todos mis artículos la primera cosa [que me dicen los editores o revisores] es que el inglés no les gusta y es así como “si no le pagas a alguien para que te lo revise, pues no”. Yo creo que esa no es la forma de evaluar las cosas. Esa es mi percepción. (Editor Académico de medicina, México).

El editor sugiere en su relato que los casos de rechazo por el idioma pueden llegar a ocurrir frecuentemente. Sin embargo, al ser una mega-revista con un alto volumen de publicación, el principal criterio de evaluación en PLOS ONE sigue siendo la solidez científica del contenido, y la falta de dominio del inglés solo se convierte en un obstáculo cuando afecta significativamente la comprensión del trabajo.

Desafíos en la disponibilidad y acceso a servicios editoriales para mejorar la calidad de la escritura en inglés

Uno de los requisitos (Criterio #5) que la revista establece para los envíos de manuscritos es que éstos estén escritos “de forma inteligible y (...) en inglés estándar. PLOS ONE no corrige los manuscritos aceptados, por lo que el lenguaje de los artículos presentados debe ser claro, correcto y sin ambigüedades.” (PLOS ONE, 2023a). La revisión del “nivel de inglés” es uno de los chequeos técnicos que realiza internamente el equipo de editores de la revista por lo que aquellos artículos con serias deficiencias idiomáticas no son enviados a los editores académicos. Sin embargo, la revista agrega en su manual para EAs: “El lenguaje no tiene por qué ser perfecto, pero no debe interferir en la comprensión científica de la obra” (PLOS ONE, 2023c), con lo cual les abre a los editores la oportunidad de rechazar artículos que no cumplan esta norma. Además, la revista aclara en su página web:

Si el lenguaje de un artículo es difícil de entender o incluye muchos errores, podemos recomendar a los autores que busquen ayuda editorial independiente antes de enviar una revisión. Estos servicios pueden encontrarse en la

web utilizando términos de búsqueda como «*scientific editing service*» o «*manuscript editing service.*». (PLOS ONE, 2024)

La recomendación de utilizar estos servicios editoriales científicos tiene sentido si se observa la alta proporción de autores que provienen de países no anglófonos. Una revisión de los archivos de la revista muestra que en la mayoría de los 20 países que contribuyen con más artículos, el inglés no es el idioma principal (Ver Figura 1).

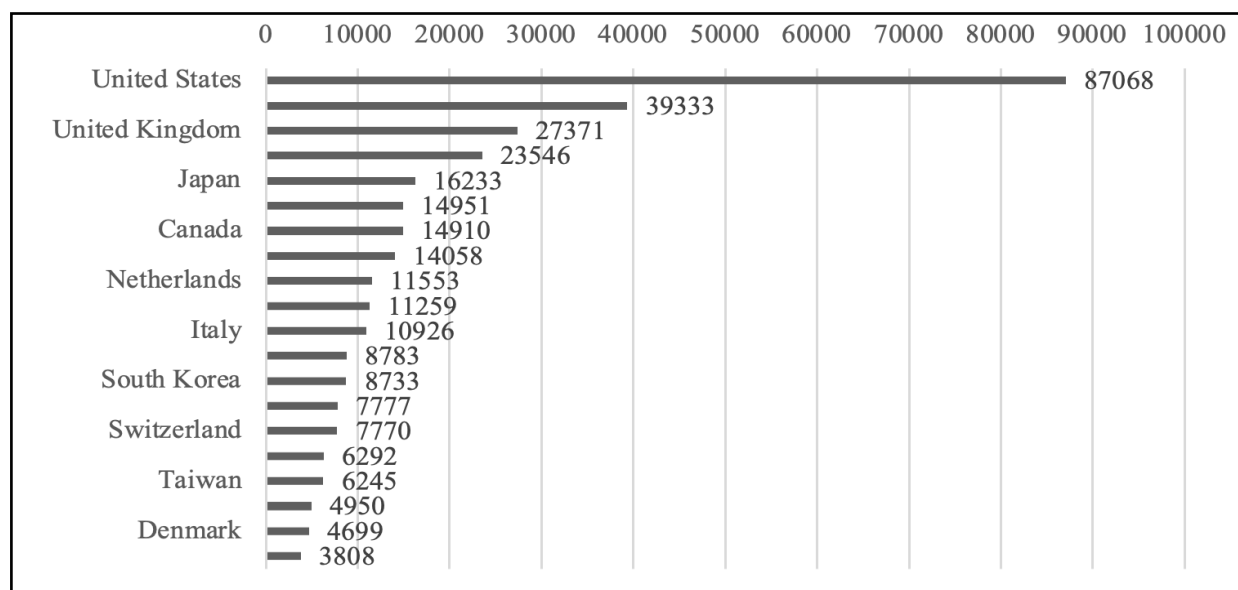


Figura 1

Los 20 países que más contribuyen en PLOS ONE

Nota. Figura adaptada a partir de los datos disponibles en Scopus (2023).

No obstante, varios EAs expresaron su preocupación por los posibles desafíos en el acceso a estos servicios editoriales para textos científicos en inglés, especialmente para autores de países de renta baja y media. Un editor de biología, de Brasil, comentó:

Hoy en día existen todos esos servicios de corrección en línea que funcionan muy, muy bien. Yo los utilizo [risas]. Pero a veces [los autores] no tienen acceso a este tipo de servicios. Así que es un problema. Creo que el [asunto del] idioma es lo peor si no tienes dinero y trabajas en un país donde es relativamente fácil, bueno, Brasil es complicado, pero aquí es fácil encontrar dinero para hacer investigación. (Editor Académico de biología, Brasil).

También otros editores comentaron que recurren a la ayuda de colegas e incluso estudiantes que dominan el idioma mejor que ellos o ellas. Si bien hoy se pueden encontrar diversos servicios en línea gratuitos y de bajo costo e incluso herramientas de inteligencia artificial

para la edición y corrección de estilo, varios participantes destacaron que algunas revistas cuentan con su propio servicio para los autores, el cual incluso a veces ofrecen de forma gratuita. En este punto, varios editores coincidieron en los beneficios del apoyo que inciden directamente en las probabilidades de publicación.

Creo que [nombre de la revista], por ejemplo, ofrece ayuda para escribir en inglés y es gratuita (...) creo que es una gran oportunidad, porque, de nuevo, no todas las universidades tienen dinero para revisarlo [el manuscrito], o para que lo revise alguien profesional o que sea realmente bueno en inglés. Así que sí, creo que este es un punto muy bueno cuando el editor puede ofrecer esto de forma gratuita para mejorar la legibilidad [del manuscrito] y luego enviarlo, tiene muchas más posibilidades de ser publicado. (Editora Académica de física, España)

El asunto del pago por estos servicios fue un tema recurrente que mencionaron los participantes. Las experiencias compartidas por los entrevistados muestran las limitaciones presupuestarias para publicar artículos, incluyendo la capacidad de contratar servicios editoriales. Varios EAs expresaron sus propias dificultades como autores para financiar la publicación de sus investigaciones, especialmente respecto al del pago por publicar en acceso abierto (AA), que fue uno de los temas más sensibles expresado por los entrevistados. Los altos cargos por publicar un artículo (APC por sus siglas en inglés) fueron frecuentemente mencionados como el principal obstáculo para publicar en revistas de AA⁴. Incluso las cuotas que cobra PLOS ONE fueron mencionadas como ejemplo de altos costos. No solamente para los editores y editoras que residen en países de renta media y baja (LMICs, por sus siglas en inglés) es un problema pagar estas cuotas o gestionar los recursos institucionales necesarios, sino incluso EAs residentes en Australia, Canadá, España y Reino Unido mencionaron las limitaciones que imponen estas tasas en términos de su elección de la revista para publicar. Una editora dijo, por ejemplo:

Inglaterra obviamente se clasifica como un país industrial rico, pero mi universidad no lo es, y simplemente no tiene el dinero para las tasas de publicación por lo que durante mucho tiempo habíamos sido excluidos de la publicación en acceso abierto, ya que no podía financiarlo, a menos que colaboráramos con otras personas que tienen algo de dinero (Editora Académica de biología, Reino Unido).

⁴ Aunque es sabido que no todas las revistas de AA cobran APCs (por ejemplo, las revistas Diamante), las personas entrevistadas hicieron alusión a estas cuotas como sinónimo de AA.

Otros participantes más relataron que han llegado a pagar de su bolsillo o compararon estas cuotas con su salario para resaltar lo absurdo de la situación. Pero regresando al tema de los servicios editoriales para la revisión del idioma inglés, varios participantes criticaron el hecho de que la revista PLOS ONE no ofrece ese servicio a pesar de cobrar APCs. La información financiera de la editorial que se encuentra públicamente disponible en internet y las entrevistas realizadas con su personal revelan que los costos de procesamiento de un artículo se centran en los chequeos técnicos (*technical checks*), por lo cual no se destina presupuesto a la corrección de estilo y se delega esta responsabilidad a los autores. Así, la revista decide sacrificar una mayor calidad de la escritura en inglés, por la solidez científica y los tiempos de publicación acelerados, que son las características del modelo inclusivo de las OAMJ como se mencionó anteriormente.

La experiencia de los EAs tanto como editores como revisores en diversas revistas producidas en sus países e internacionalmente les brinda una visión crítica del modelo de AA mediante pago de APCs. Los EAs resaltaron las implicaciones negativas del modelo de APCs para la posibilidad de publicación multilingüe más balanceada (Sivertsen, 2018). El testimonio de este EA de México resume lo expresado por otros EAs al respecto de la viabilidad de modelos de publicación más diversa en términos lingüísticos:

Yo creo que es inadecuado o que no está bien el que tú pagues por publicar. En la [nombre de la revista], por ejemplo, la [sociedad científica que la edita] paga todo el dinero. Entonces tú no pagas nada por publicar, es Open Access. Y la sociedad paga la traducción al inglés. Hay algunas otras que te dicen, bueno, pues te lo acepto en español, pero tú lo traduces al inglés y entonces me mandas el artículo en español y en inglés (...) En este caso, en la [nombre de la revista] tú lo mandas en español, la revista paga la traducción al inglés y se publica en línea en los dos idiomas (...) la gente de Rusia, Pakistán, Estados Unidos que hemos recibido nos lo mandan en inglés. Nosotros lo traducimos al español y lo publicamos en los dos idiomas. (Editor Académico de medicina, México).

En resumen, las experiencias de los EAs revelan la importancia de contar con mecanismos que faciliten la revisión del idioma sin comprometer la accesibilidad financiera, sugiriendo que modelos más inclusivos permitirían una mayor diversidad lingüística y una representación más equitativa en las publicaciones internacionales.

Discusión

El análisis de las dinámicas editoriales en la mega-revista PLOS ONE, especialmente en torno al uso del inglés como única lengua de publicación, revela un panorama complejo en el que convergen la inclusividad y la exclusión. El proceso editorial de esta mega-revista involucra múltiples idiomas debido al multilingüismo de las personas involucradas, pero también puede llegar a incluir algunas dinámicas de jerarquización de autores (Amano et al., 2023; Beigel, 2021; Rodríguez Medina, 2019) y sesgos de publicación que tienen que ver con el monolingüismo del equipo que dirige la revista la aceptación de la *lingua franca* como único idioma de publicación.

En el caso de la revista estudiada, existe una especie de sacrificio de la calidad lingüística por el modelo inclusivo que representa la misión de una mega-revista. Es decir, la prioridad de la solidez científica implica publicar artículos con un nivel de escritura aceptable mas no ideal, lo cual implica que el producto final no necesariamente sea al que aspiran los autores, especialmente si pagan cuotas de publicación. Este hallazgo evidencia una contradicción: mientras que se busca reducir el sesgo hacia los autores no anglófonos, la falta de competencia en inglés sigue siendo un obstáculo significativo.

La exigencia de cumplir con ciertos estándares lingüísticos para garantizar la comprensión básica, aunque justificada desde un punto de vista editorial, refuerza la dominancia del inglés y, en consecuencia, reproduce desigualdades estructurales en la producción de conocimientos. Como mencionan Adema et al. (2024) “Comunicar toda la investigación en una sola lengua significa que la lengua también moldea la investigación. La lengua da forma a lo que es posible expresar, contextualizar o revelar. Si la investigación se comunica principalmente en inglés, entonces estará sujeta a contextos y visiones del mundo anglófono”. (p.1). En este sentido, algunos estudios sobre revistas científicas destacan que, para superar las barreras lingüísticas, las revistas deberían tener un compromiso para entender los retos para muchos autores en el dominio del inglés como idioma de publicación. Ello implica el diseño e implementación de políticas editoriales inclusivas (Arenas-Castro et al., 2024).

El concepto de «multilingüismo equilibrado» en las comunicaciones académicas fue acuñado por Sivertsen (2018) para reconocer que en la ciencia se utilizan diferentes lenguas para resolver diversas necesidades de comunicación. Por tanto, equilibrar el uso de las diferentes lenguas en la publicación y fomentar la diversidad lingüística apuntaría a una comunicación académica más responsable que el uso de una *lingua unica*. Este concepto puede servir como referente para un diseño de políticas más acordes a los entornos globales de publicación, como hemos sugerido anteriormente (del Rio Riande & Lujano Vilchis, 2024).

Conclusiones y recomendaciones

El hecho de que una lengua sea el medio de comunicación de los resultados finales de la investigación, como los artículos, no significa que sea la única lengua en la que se producen, discuten y acuerdan las aportaciones al conocimiento de estos artículos, y mucho menos que sea la lengua de los lectores que pueden beneficiarse de los resultados de la investigación (del Río Riande et al., 2022; Sivertsen, 2018; Tsoukas, 2008). Por lo tanto, es deseable que los editores y las políticas editoriales de las revistas generen y fortalezcan las condiciones para el multilingüismo en la publicación académica. Algunas estrategias que podrían implementarse son: proporcionar materiales en diferentes idiomas para autores, editores y revisores, incluidas, entre otras, las directrices de presentación y las directrices de revisión por pares. También considero que es necesario reforzar la publicación de resúmenes en otras lenguas e incluso considerar la recepción artículos en otras lenguas diferentes al inglés.

También es esencial ofrecer servicios de corrección de textos a los autores, sobre todo cuando se paga por la publicación. En este sentido, mis datos revelan que los recursos de las tasas de publicación no son invertidos en la mejora de la legibilidad en inglés, lo cual puede opacar la transparencia del modelo de negocio de la revista. Mis datos también confirman que el nivel de dominio del inglés es un factor decisivo para participar y prosperar en la toma de decisiones de publicación como editores académicos, lo que pone en desventaja a los investigadores de determinadas regiones o países en los que no se domina el idioma. Las revistas deberían fomentar y facilitar las interacciones empáticas entre las partes interesadas para que todos se familiaricen con la interacción con personas con distintos conocimientos lingüísticos.

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