

chapter 11

Disability Studies in Inclusive Education

Universal Design for Learning: UDL basics

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Chapter learning outcomes

After completing this chapter, you will be able to:

- ✔ Understand the concept of Universal Design for Learning (UDL) in relation to Universal Design.
- ✔ Explore the principles and guidelines of UDL and how they can inform decisions on how to vary curriculum and instruction for differing learners.
- ✔ Recognise the three different ways that UDL can be understood: mindset, curriculum design framework, and theory

Preparatory activities



READ: UDL and connected laws, theories and frameworks

Author: Elizabeth Dalton

Year: 2019

Estimated reading time: 90 minutes

File size: 383 KB



REFLECTION

Estimated time: 30 minutes

Reflect on the laws, theories, and frameworks relating to UDL, as discussed in the first preparatory reading “UDL and Connected Laws, Theories and Frameworks”. Write a short (no more than 500 words – one page) statement about the laws, theories and/or frameworks that you are aware of, are relevant to you, or that you have worked with, that you want to keep in mind as you learn more about UDL.



WATCH: Universal Design for Learning: UDL at a glance

Creator: College STAR

Date: 2018

Duration: 6 minutes



REFLECTION

Estimated time: 15 minutes

After you watch the video, using your own words, write a short explanation of UDL – what it is and why it is important – something that you would want to share with your colleagues and students to introduce UDL.

Introduction

In this chapter, we have the opportunity to learn what is meant by UDL and how an understanding of UDL can help you to make learning environments accessible to all students so that they can more fully participate and be successful in learning. We consider the basic core principles of UDL, the scope and purpose of the UDL guidelines and checkpoints, and how these can impact the accessibility of instruction. We also consider three different ways of thinking about UDL – as a mindset, as a curriculum design framework, and as a theory of instructional design.

What is meant by UDL?

UDL is an approach for designing and developing instruction to reach the widest possible range of learners with differing needs within the same classroom or instructional setting through one comprehensive instructional plan that imbeds variation. As you will see, this type of approach, when used effectively, offers a practical means for moving us closer toward the achievement of truly inclusive education in our schools and elsewhere.



When we deconstruct the term, UDL's true purpose is revealed. "Universal" means "including or covering all" (Merriam-Webster); "design" means "to create or construct according to plan" (Merriam-Webster); and "learning" means "the acquisition of knowledge or skills through experience, study, or by being taught" (Oxford Dictionary). Therefore, **UDL should be understood as the process by which skills and knowledge are acquired according to a plan that is created to include or cover all students.**

UDL as a mindset

One of the reasons that it is possible to think of UDL in this way is because, while it is true that every learner is different from the next learner, the ways in which these differences can be understood and then planned for are actually systematic in nature. This concept of "systematic variability" is at the heart of the UDL approach and it allows us to develop a different mindset about what is possible for learners and how we can help them to achieve these possibilities.

CAST defines systematic variability in their landmark text, *Universal Design for Learning: Theory and Practice* by Meyer, Rose, & Gordon (2014):

"Learners are highly variable, but that variation is not chaotic. Of course, each learner is unique; but learners share common, predictable patterns of variability that are useful to consider when designing learning environments." (p. 29)

It was at CAST in Massachusetts, USA, that the UDL approach was first conceptualised and later operationalised. In the early 1990s, the staff of CAST had been working with children with varying types and degrees of disabilities and differing needs, trying to find different ways to support these different learners through the creative use of various technologies. As they worked toward this goal, the staff began to realise that ***it was not the students that were disabled, it was the environment that was disabled.***

The children all had different learning capabilities and learning challenges, but when appropriate adjustments were made to the learning environment, materials and instruction, they could learn successfully. The staff also observed that these adjustments followed various patterns, and that the patterns of adjustment and variation could be defined, planned for and followed in order to develop learning environments in which all of the students can benefit from the instruction and all can demonstrate what has been learned in differing ways. This realisation of what is now known as "systematic variability" led to the development of the three core guiding principles of UDL: multiple means of representation; multiple means of action and expression; and multiple means of engagement.



As CAST sought solutions for how they might “fix” learning environments to be more useful and accessible for learners who learned in different ways, they turned to the field of neuroscience, which focuses on the science of how the brain functions, and more specifically how the brain learns. They were also aware of the earlier concept of Universal Design (Mace et al., 1996), which had a set of principles to follow in order to make physical spaces usable and accessible for all who wanted to use them.

By blending ideas from neuroscientific research with the concept of “universality”, CAST developed an innovative mindset, a belief in the possibility of achieving such universality in not only physical environments, but also in learning environments. Studies from neuroscience revealed that different parts of the brain were responsible for different components of the learning process. CAST focused on three specific areas of the learning process as being uniquely important: the process of recognition of information; the process of analysing, making sense, and responding to information; and the process of connecting with and being motivated by the information.

From their analysis of the research and the conclusions they drew, CAST developed the three core UDL principles referenced earlier, which supported their universal learning mindset. Since that time, CAST has been working to expand and infuse this universal learning mindset within all aspects of education.

UDL as a curriculum design framework

Let’s talk now about UDL through a different lens – as a curriculum design framework. Once the UDL principles were developed, it became clear that more would be needed for the field of education to be able to understand the full potential of UDL as a new mindset for achieving inclusive education. CAST dug deeper into neuroscientific research and also considered other existing ideas and approaches on education that relate to inclusion. Many of these related these ideas and approaches are presented in Figure 1 (Dalton, 2016).

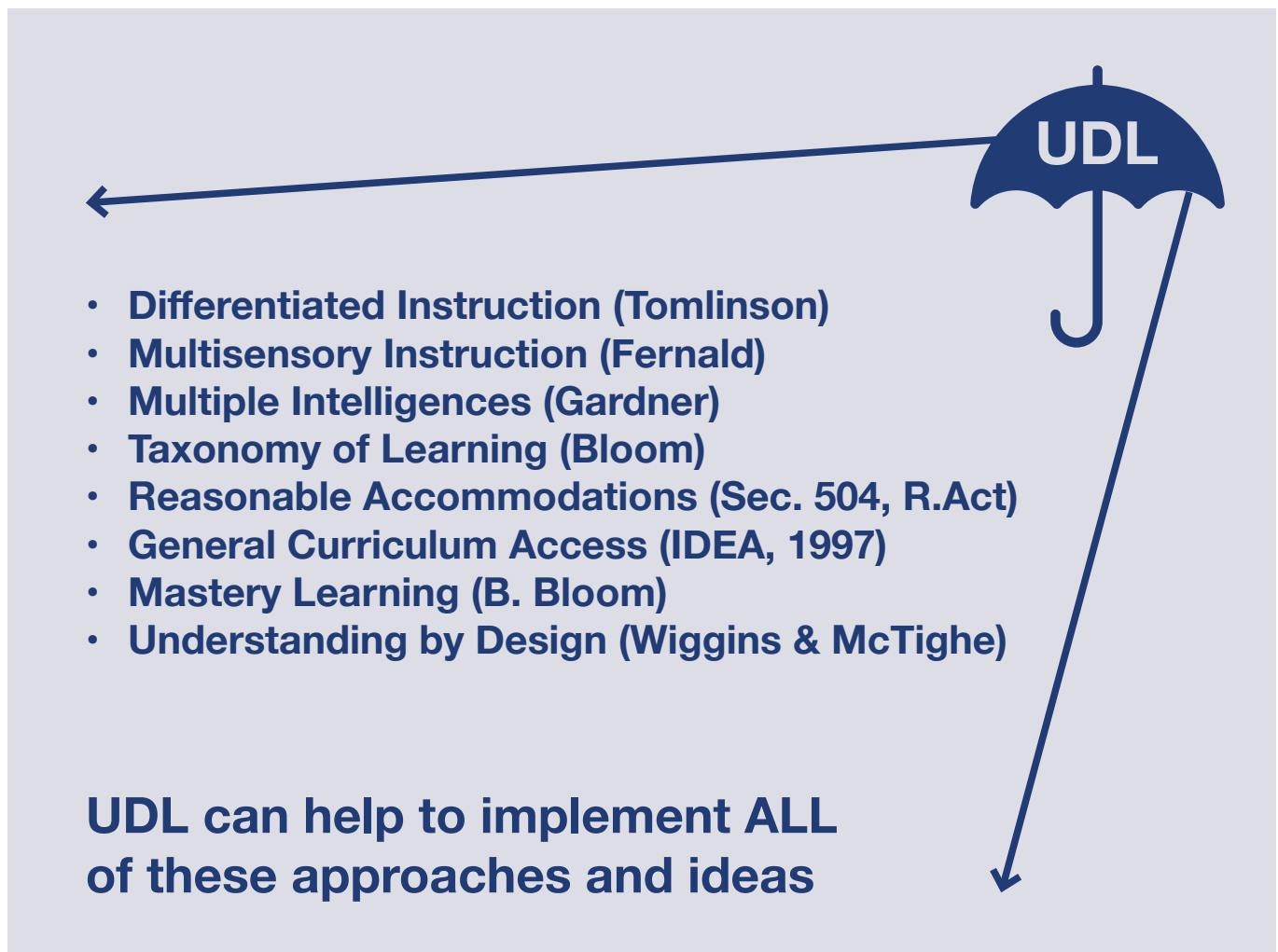


Figure 1: UDL-related ideas and approaches (Adapted from: Dalton, 2016)

By consulting neuroscientific research and considering the varied approaches relating to concepts of inclusion and inclusive education for all learners (just some of which are included in Figure 1), CAST went on to develop the UDL guidelines and associated checkpoints within each guideline to help clarify the key components of each principle and how educators could use these concepts to design curriculum that integrated systematic variation and supported all learners.

The UDL guidelines have gone through several versions over the years. The graphic organiser for the latest CAST iteration of the *Universal Design for Learning Guidelines, Version 2.2* (CAST, 2018) is shown in Figure 2. The UDL principles are displayed across the top, and the three guidelines associated with that principle are shown in the column below the principle. You will also see that there are checkpoints listed within each of the nine UDL guidelines. These checkpoints offer explanation of what should be considered for use in designing instruction in order to implement that specific guideline. As you can see, there is a great amount of detail



involved in the UDL guidelines. This graphic may be difficult for you to read or to access, as some of the print is necessarily quite small in order to fit in all of the necessary information. Don't be discouraged – there is a tremendous amount of information about the principles, the guidelines and the checkpoints available on the CAST [website](https://www.cast.org/). Here you can find interactive materials that provide in-depth and accessible content about the UDL guidelines and many other UDL-related resources.

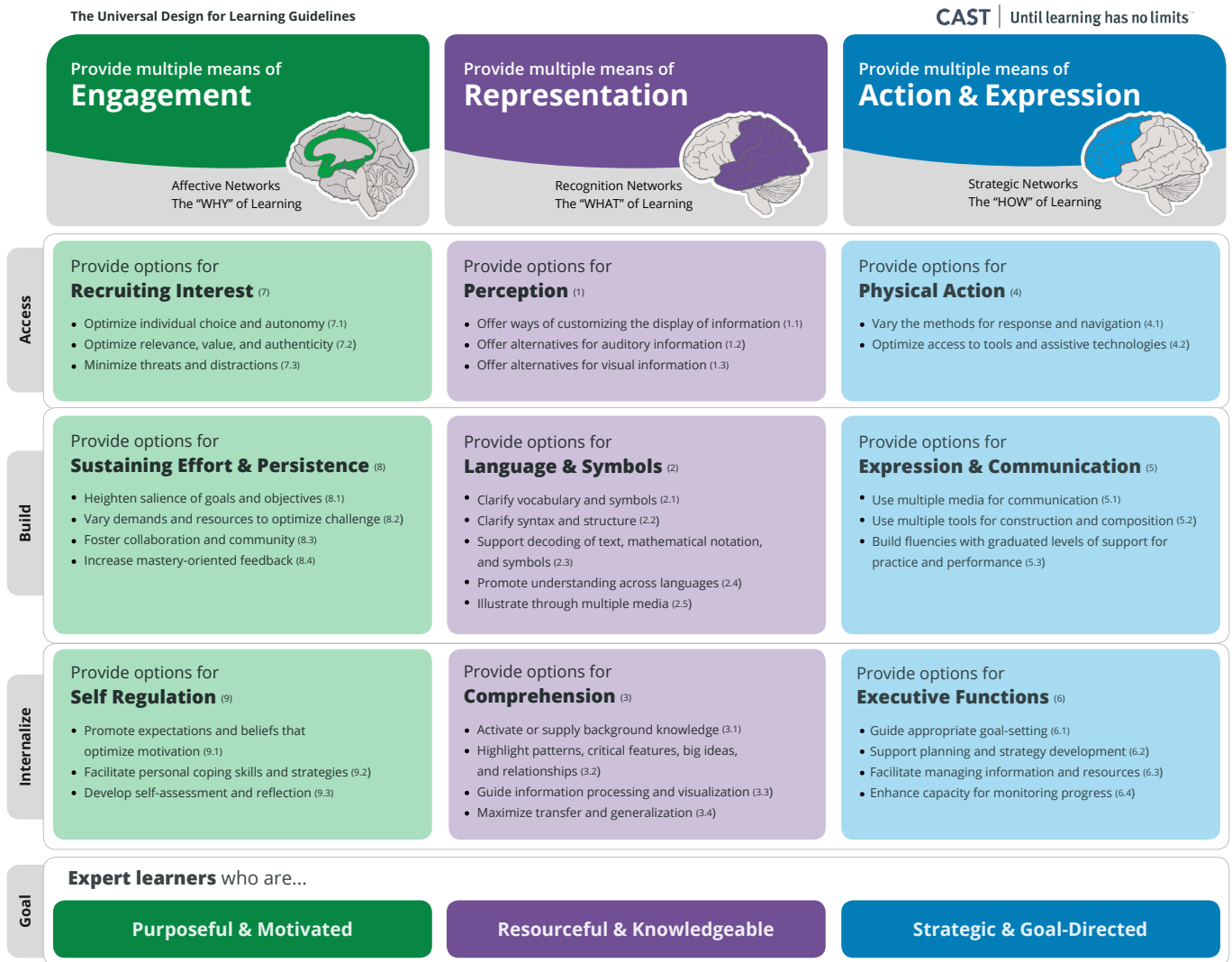


Figure 2: Universal Design for Learning Guidelines Graphic Organizer, Version 2.2 (Source: CAST, 2018)

In [Chapter 12](#), we will discuss how these UDL principles, guidelines and checkpoints can be applied in practice to expand the opportunities of inclusive education to all learners.



UDL as a theory of instructional design

The third way of thinking about UDL is as a theory of instructional design. This author, along with several colleagues, has been exploring the potential role of UDL as an actual theory in the area of education known as instructional design. Other professionals have as a theory of inclusive practice in educational psychology (Sewell et. al., 2022). We argue in Gronseth, Stefaniak and Dalton (2021) that:

“[O]ver the past 30 years, UDL has ‘matured’ from solely a curriculum design framework to now articulating key components characteristic of instructional-design theories” (p. 1) [such as in the widely recognised ID theories of Gagné (1965) and Reigeluth (1983)].

And

“Based on our study of Reigeluth’s (1999) characteristics of instructional-design theories, we conclude that UDL indeed fulfills these characteristics by addressing method variables such as instructional strategies, instructional platforms, and learning affordances as well as situational variables that comprise desired learning outcomes and instructional conditions.” (p. 4)

We believe that the importance of positioning UDL as an instructional design theory elevates its position within education as a whole, and this will make it much easier for leaders of educational systems around the world to embed UDL as a comprehensive means to achieve the implementation of inclusive education. The Merriam-Webster Dictionary defines theory as “a plausible or scientifically acceptable general principle or body of principles offered to explain phenomena”. Educational researchers rely on theories to organise information, explain events and make predictions. While UDL is widely accepted as a framework to follow to reduce educational barriers and to develop instruction that effectively includes the wide range of learners in today’s classrooms, elevating UDL as an instructional design theory can lead to greater systemic changes across educational environments. Educational leaders rely on researchers to provide them with evidence prior to these leaders supporting any movement toward comprehensive systems change (which expansion of inclusive education calls for). When UDL can be accepted as a theory of how education can and should be designed, it will have the potential to begin a global movement toward meaningful inclusion and inclusive education for all.



Conclusion

UDL has been in existence for approximately 30 years, with its roots initiating from the work of the staff at CAST. Their desire to support the learning of all students, largely through the powers of technology, as well as their belief in Universal Design, leveraged the development of the concept of UDL and later of the UDL curriculum design framework. The principles of UDL, however, go far beyond the use of technology to create universally designed learning environments.

UDL principles embrace the importance of accessing the full scope of variation in materials, instructional strategies and assessment – whether they are high-tech, low-tech or no-tech – to offer guidance for developing educational learning environments that are not only accessible for all learners, but also offer varied means to build on and internalise learning. The ultimate goal of UDL is to support the development of motivated, knowledgeable and goal-directed learners by reducing barriers to learning through systematic variation that is embedded in the curriculum from the start. UDL is sometimes referred to as a “front-loaded” instructional design model, since the many variations are built directly into the plan of instruction from the start, rather than needing to “retro-fit” a curriculum when needs or learning problems arise. UDL therefore supports the natural variation of learning within every classroom. In this way, UDL is leading efforts around the world to achieve an inclusive education for all.

Before moving on to the [next chapter](#), you may like to engage with this practice activity designed to help you begin to connect the framework and guidelines of UDL with your own practice. Take some time and give it a try!



ACTIVITY

Estimated time: 45 minutes

Read: [Universal design for learning guidelines version 2.2 \[graphic organizer\]](#)

Author: CAST

Year: 2018

Estimated reading time: 10 minutes

File size: 434 KB

Universal design for learning guidelines version 2.2 [graphic organizer] (CAST, 2018) is organised into three different categories of detail – the first category is the three core principles. The second is the guidelines associated with each principle. The third is the various checkpoints included in each of the nine guideline areas. Think about this organisation and how it can help you to think about diversifying your curriculum and instruction. While this organiser can be understood vertically, it also has an important horizontal organisation in rows. These rows show different developmental levels at which UDL can, and should be, implemented. They are: Access, Build and Internalise.

Think of a lesson or a teaching activity that you have done recently or that you have an interest in doing. Consider the three levels of UDL described above and shown on your UDL graphic organiser. Develop a table (by computer or by hand) that gives the name of the teaching activity and a brief description. Below, make three columns, labelled: Access, Build and Internalise. As you think about your lesson, in each column, provide an example of an idea you have to help students to:

1. Gain **access** to the lesson.
2. **Build** upon their initial learning to grow their understanding.
3. Start to **internalise** this knowledge to become more independent and to be able to apply it themselves in new ways.

Share your chart in one of three ways: as a digital document, as a scanned document, or by taking a picture of it to share with others for discussion.



References

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