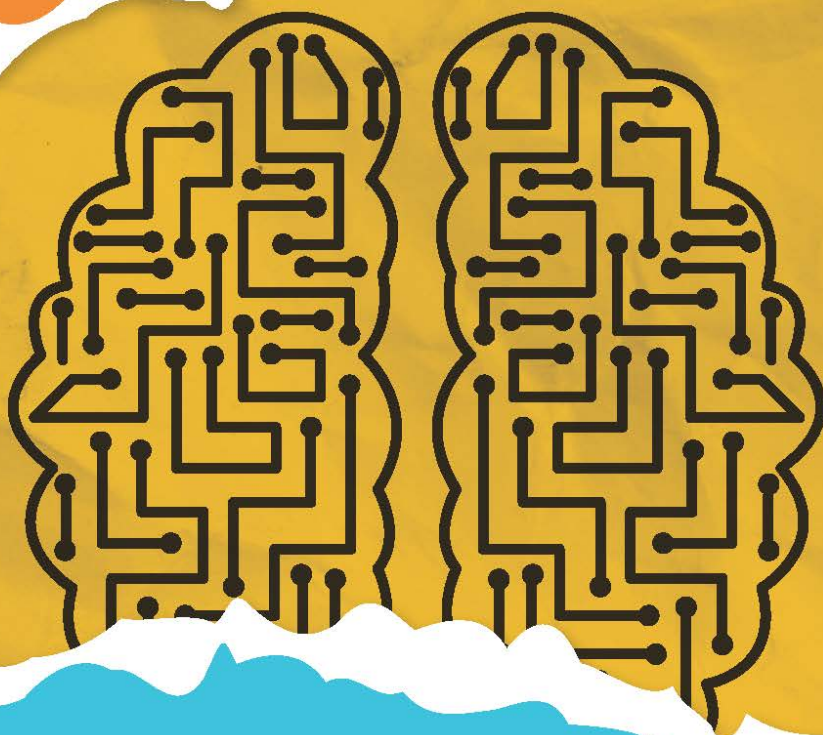


Reimagining South African Higher Education

Towards a Student-Centred
Learning and Teaching Future



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CHAPTER 3

PROMOTING EQUITY THROUGH LEARNING EXPERIENCE DESIGN

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Abstract

This chapter argues that the COVID-19 pandemic resulted in both an increased awareness of inequity and an increased space for collaboration between academics and Learning Experience Designers. These factors create an opportune moment to adopt policies and approaches which promote equity in online learning. The COVID-19 pandemic resulted in a rush to move university courses online. Student's experiences in this period were shaped by their socio-economic circumstances and geographic locations, resulting in highly inequitable access to learning spaces and materials (Dube, 2020; Soudien et al., 2022). Universities developed a range of responses to ameliorate inequities, such as subsidised data packages and zero-rated learning sites. However, the urgency of moving courses online did not allow space for debate about sustainable policies and practices to promote equity through online learning design. This chapter explores two frameworks for implementing online design to promote equity. The first is web accessibility, which refers to measures that make online content accessible to people with disabilities. We argue that web accessibility measures should be prescribed and suggest that universities adopt or adapt the W3C's Web Content Accessibility Guidelines (WCAG). The second framework is Universal Design for Learning (UDL), which seeks to ensure that all learners can access and participate in meaningful learning opportunities. We argue that, in the South African context, particularly given that lecturers are usually responsible for designing their own course sites, influencing lecturers' mindsets is central to the implementation of UDL. A combination of prescriptive accessibility standards and interventions to include UDL in professional development and technical training programmes could make a substantial contribution towards enhanced access and equity in online learning.

Keywords: equity; online learning design; student learning; universal design for learning

1. Introduction

The COVID 19 pandemic resulted in a sharp awareness of issues related to equity and access in online learning. As the dust settles on the “Emergency Remote Teaching” era, South African universities need to build on this awareness to find institutionally sustainable ways of promoting accessibility and equity in online learning. This chapter explores the space to promote equity through learning experience design frameworks, such as web accessibility and Universal Design for Learning.

2. Background

South African universities are increasingly using online technology for learning. These technologies can create barriers for students with disabilities, students working in low-lit or disruptive learning environments, and students using mobile devices (Lim, 2020; Rayyan, 2020). As learning experience designers at a public South African university, the authors believe that the current moment provides an opportunity to promote equity by proactively adopting frameworks which seek to remove barriers to online learning for all students.

Before discussing how Learning Experience Design can contribute to equity, it is prudent to define some key terms used in this chapter. Conole, quoted in Pallitt et al. (2018), defines learning design as a methodology that allows lecturers and designers to make pedagogically sound decisions regarding the design of learning activities and interventions, making effective use of appropriate resources and technologies. In this chapter, the term “Learning Experience Design” (LXD) refers to learning design in an online technology-mediated space. In the context of South African universities, learning experience designers may be called by different names, such as “instructional designers”, “online designers”, and eLearning support staff. Lecturers who design their own online course sites also fulfil the role of learning experience designers.

Drawing on Gorski (2005), “equity” is defined as distinct from equality. The terms equality and equity are often misinterpreted in higher education (Willems, 2019). According to Levitan (2016), each term carries implicit assumptions about what is fair, such as how persons should be treated and how resources should be distributed in a given environment. Equality refers to the concept of sameness, or the idea that fairness and justice can be attained by treating everyone equally (Willems, 2019). Nevertheless, this is only fair and just if everyone begins at the same starting point. However, it must be acknowledged that the playing field is not level (Willems, 2011), and the causes and consequences of these inequalities raise questions around social justice (Young, 2001). The concept of equity, on the other hand, necessitates a transition to a paradigm which recognises the diverse needs of individuals while also admitting the disparity of the playing field (Gorski, 2005). This includes the various types of specific tools and equipment, or support needed to address these needs (Levitan, 2016).

3. Designing for Accessibility

To move towards equity, a good starting point is to focus on students at the margins. (Paramasivam et al., 2022). There is no doubt that students with disabilities face an ongoing disadvantage in accessing online course material (Rose et al., 2006; Tobin & Behling, 2018). Designing online material in ways which are accessible to students with disabilities is a step towards equity, in that it acknowledges an uneven playing field and adopts measures to mitigate uneven access.

The World Wide Web Consortium (W3C) defines web accessibility to mean that “websites, tools, and technologies are designed and developed so that people with disabilities can use them” (W3C, 2005b). In the context of this chapter, web accessibility refers to measures taken to ensure that students with disabilities can access online content. Online learning material is web content, and the W3C web accessibility initiative provides a practical entry point for thinking about accessible online content.

The W3C's Web Content Accessibility Guidelines (WCAG) define four principles for web accessibility and provides guidelines for implementing each principle (W3C, 2005a). The standards defined by WCAG are measurable, and adherence to the standards is measured at three levels: Level A, AA, and AAA, with A being the lowest level of compliance and AAA being the highest level of compliance. (W3C, 2005a). The WCAG guidelines can be implemented in the design of course sites on the Learning Management Systems (LMS) used by universities.

The first WCAG principle is that **content should be perceivable**. This principle leads to actions such as ensuring there are text alternatives available for non-text content, including alternative text (ALT text) tags for images such as graphs and diagrams, and transcripts for video content. Online content can be also made more perceivable to students using assistive technology by formatting text using heading styles, chunking long pieces of text, and ensuring adequate colour contrast (W3C, 2019).

The second principle is **operable user interface and navigation**. Most learning applications, such as LMSs, advertise their accessibility ratings. The W3C accessibility ratings are based on testable criteria for each accessibility principle, and result in an application receiving an A, AA, or AAA rating for accessibility, with AAA being the most accessible. These ratings allow potential application buyers to determine the accessibility of the application's interface. Procurement systems in higher education should include accessibility ratings as part of their procurement process. It is acknowledged that lecturers may not have input into university procurement processes, but lecturers can enhance operability by giving students control over settings wherever possible. For example, allowing students access to stop, pause, and play functions in video players; allowing students to resize text; and/or allowing students to control the volume of audio and video clips (W3C, 2019). Lecturers can also organise their online content in ways which make it more easily navigable. For example, by ensuring that pages have descriptive titles and that there is more than one way of accessing the various resources within a course.

The third WCAG principle is **understandable information and user interface**. There are a number of ways in which lecturers can ensure that text is understood by the broadest audience, such as using the simplest language possible, providing a glossary of new terms, and avoiding idioms specific to a single language or culture (W3C, 2019). Lecturers can also ensure that content appears and operates in predictable ways. This means using a layout where design elements such as icons appear in the same place on every page and carry the same meaning on every page.

The final principle is that content should be **robust**. Robust content is defined as “compatible with different browsers, assistive technologies, and other user agents” (W3C, 2019). This guideline applies more to software developers than to software users. The main role of lecturers as software users in ensuring robust content is to carefully examine any site or tool external to the LMS to ensure that it can be accessed by students with different abilities using devices with varying operating systems.

The WCAG principles and practices of accessible design are well established. In many countries where legislation requires developers of online content to comply with accessibility standards, the standards that are referenced are WCAG. For example, the United Kingdom’s *Equality Act 2010* (EQA) not only prohibits discrimination on the basis of disability but places the onus on companies to take active measures to enhance the accessibility of their websites. The EQA doesn’t specify particular technical accessibility standards for private sector website owners. However, the *Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations* specifies that public sector bodies are required to meet a specific standard set by the W3C, namely WCAG 2.1 Level AA (Government Equalities Office and Equality and Human Rights Commission, 2013).

Similarly, in the USA, government websites must meet Section 508 regulations (U.S. Access Board, 2018), which state that all electronic and information technology developed, procured, maintained, or used by the federal government be accessible to people with disabilities. These regulations were revised in 2018 to include the WCAG 2.0 standards at level AA (U.A. Access Board, 2018). In addition, *Title II of the Americans with Disabilities Amendments Act of 2008 and Section 504 of the Rehabilitation Act of 1973* require US schools and universities to ensure that the technology they use is fully accessible to individuals with disabilities or otherwise to provide equal access to the educational benefits and opportunities afforded by the technology.

In South Africa, the Constitution (Act No. 108 of 1996) and the Employment Equity Act (No. 55 of 1998) prohibit discrimination on the basis of disability. However, there is currently no legislation which compels public or private sector organisations to comply with any specific web accessibility standards. The Department of Communications has issued accessibility guidelines which cover many of the same points as WCAG (RSA, 2018). However, these are simply guidelines and are not legally enforceable.

The South African government has also published a *National Strategic Framework on Universal Design and Access* (RSA, 2021) which is largely focused on accessibility in the context of physical spaces and spatial planning. The *National Strategic Framework on Universal Design and Access* is not legally enforceable at this stage. However, the document suggests that a legally enforceable UDL framework will be forthcoming:

This framework serves as a prescriptive guide for the promotion and eventual enforcement of universal design and access standards, using a disability inclusion perspective as its motivating force". (RSA, 2021).

As there are no current regulations which compel South African universities to adopt specific web accessibility standards, it is up to each university to decide whether to adopt a web accessibility policy or not, to define the accessibility standards that it will prescribe, and to decide how to ensure compliance with those standards.

4. Designing for Accessibility: Shifting Approaches

Statistics SA estimates that around 7.5% of South Africans have a disability (Statistics SA, 2014). However, the number of students in higher education with a declared disability is significantly lower, estimated at only 1%. (Van der Merwe, 2017). Some universities have a higher percentage of students with declared disabilities. For example, in 2021, 1159 disabled students registered with the University of the Witwatersrand's Disability Rights Unit (DRU), comprising 2.8% of the total student body (DRU, 2022). The number of students with disabilities is likely to exceed the number of students with declared disabilities, as some students prefer not to declare their disability due to fear of stigma and being perceived as less significant members of the university community (Eccles et al., 2018; Aquino & Bittinger, 2019). However, even if we allow for students with undeclared disabilities, students with disabilities constitute only a small minority of students in higher education.

As a result of the small percentage of students with declared disabilities, lecturers and site designers may question whether it is worth implementing accessibility principles in their courses. While there is no doubt that implementing accessibility principles takes time and resources, it is an essential step towards equity. Implementing accessibility principles across courses enables a mind shift from the accommodation of a few students to learning environments that work for a greater number of students. Most universities currently have an accommodation approach to enabling students with disabilities to access online learning material (Perez, 2015). An accommodation approach consists of making an exception or a special accommodation for a single student on a once-off basis. Ketterlin-Geller and Johnstone (2006) note that:

Accommodations can include changes to the setting in which instruction is presented or assessment tasks are given, the amount of time allocated to a student to learn a concept or complete a task, the format of the information that is presented, the method through which the student responds to questions, or the materials or equipment that support the student in his or her ability to interact with the material. (p. 164).

Edyburn (2010) argues that an accommodation approach maintains inequality because students may experience a delay in access (for example, the time it takes to create an alternative format for some learning material); students may be required to make a special effort to obtain or use an accommodation (for example, negotiating bureaucratic processes to schedule alternative assessments); and students may experience discomfort or stigma (for example, having to write examinations in a separate area if they ask for additional time). An accommodation approach is problematic because the burden is placed on students to self-identify as disabled before they can access support from the institution. A shift from accommodation to accessibility “places the burden for accessibility on the curriculum rather than on students” (Perez, 2015, p. 60).

Further, granting accommodations is by definition a resource-intensive process, where additional capacity is allocated to accommodate a specific need. An accommodation must be conceptualised and implemented for each individual student who requests it. In contrast, an accessibility approach can be mainstreamed into standard course development processes. For example, instead of adding a transcript to videos only where there is a student with disabilities in that class, an accessibility approach would ensure transcripts are added to all learning and teaching videos. An accessibility approach enables predictable resource planning, while an accommodation approach may result in unexpected resource requirements. However, while resource planning may be more predictable in an accessibility approach, it should be noted that the actual costs of implementing an accommodation approach versus implementing an institution-wide accessibility policy are not clearly established yet (Gidden & Jones, 2021).

The up-front costs and capacity requirements of an accessible design approach may be a key reason why South African universities have been slow to adopt an accessibility design approach. The calculation of the potential benefits of an accessibility approach is often weighed against the small number of disabled students in higher education. The missing factor in this calculation is the fact that accessibility measures benefit a far larger group of students than those with declared disabilities. This includes students who have not declared their disability and registered with university support units and students with undiagnosed disabilities. Recent experience with online learning during the pandemic suggests that this group also includes students accessing online learning material in disruptive environments, and students with limited access to connectivity and data.

5. Online Learning During the Pandemic

The pandemic forced universities to move the curriculum online. The term Emergency Remote Teaching (ERT) emerged as a way of distinguishing rapidly assembled online teaching practices from research-informed high-quality online education. Hodges et al. (2020) contrast learning experiences that are planned from the beginning and designed to be online, with ERT which is a “temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances.”

The move to ERT exposed and exacerbated inequalities amongst students. Czerniewicz et al. (2020) note that “[i]n a certain sense, the pandemic, and the pivoting to online made visible, the invisible, or ignored manifestations and mechanisms of inequality” (p. 949). ERT brought home the extent of digital inequalities between students. The General Household 2018 Survey report estimated that only 22% of households had access to a computer and a mere 10% had access to the internet (Statistics SA, 2019, p. 63). Amnesty International (2020) recently pointed out that South Africa has one of the most unequal and broken education systems in the world, arising out of issues of social injustice. Students’ socio-economic circumstances and geographic locations shaped the challenges they faced during ERT, ranging from the lack of adequate learning spaces and infrastructure, availability of electricity and electronic devices, and the affordability of data and internet connectivity. (Dube, 2020; Soudien et al., 2022). As a result of the COVID-19 pandemic, universities have gained significant experience in offering courses and learning interactions to students outside the traditional face-to-face model. Many South African universities developed a range of strategies to enhance student access to learning materials and interactions. These included the provision of devices such as laptops and tablets; addressing the affordability of data by providing subsidised data bundles or negotiating with Mobile Service Providers to zero-rate some websites hosting learning materials (Czerniewicz et al., 2020).

Over the course of the ERT period, lecturers became acutely aware of the barriers students faced in accessing online learning material, particularly the affordability of data. At the beginning of the pandemic, many lecturers attempted to substitute face-to-face lectures with synchronous online meetings, using tools such as Zoom, Big Blue Button, and Microsoft Teams. It soon became apparent that these tools were very data heavy. Students who relied on the free data packages from the university were unable to join all the live sessions. Some universities benchmarked the data usage of different tools, and others issued guidelines for low bandwidth teaching (Czerniewicz et al., 2020).

As a result, many lecturers attempted to minimise synchronous lecture-style sessions and experimented with new formats. Furthermore, individual lecturers developed a range of creative approaches to improve student access to online course material. For example, some lecturers formatted assignments as interactive PDFs. This allowed students with limited connectivity to download assessments and complete them offline. Other lecturers allowed students to hand in photos

of handwritten work if they didn't have access to a device with a word processor.

As university leaders and individual lecturers grappled with student access to learning materials, it became apparent that measures taken to increase accessibility for disabled students had substantial benefits for other groups of students. For example, a video transcript benefits students with visual disabilities. However, it also benefits students with limited data and/or limited connectivity, as these students find it more affordable or convenient to access the video content by reading a text transcript. Students who speak English as a second language, and students who struggle to understand their lecturer's accent, would also benefit from a transcript. Similarly, accessibility measures such as colour contrast do not only benefit students with visual impairments but also students studying in low-light environments; and measures such as consistent layout and text chunking do not only benefit students with attention impairments but also students studying in noisy or otherwise disruptive environments.

The urgency of moving courses online during ERT resulted in quickly assembled courses, few of which incorporated any accessibility measures. As the era of ERT ends, it is time to reflect on how to use learning experience design to promote equity, not only for students with disabilities but for all students. Universities are in a position where, after nearly two years of online learning and teaching during ERT, many of the basic infrastructures and support systems for online learning are in place, and many academics are more skilled in creating online learning environments. University lecturers have a shared experience of confronting barriers students experience in accessing online learning, and a sharp awareness of how the diverse abilities, location, and socio-economic circumstances of students impact their access to online learning. (Erlam et al., 2021; Gumede & Badriparsad, 2021; Hodges et al., 2020).

The role of lecturers as learning experience designers is likely to increase as universities normalise course development processes after the pandemic. During the ERT era, many universities sourced additional learning experience design capacity to assist with the creation of online materials and courses. In some cases, this capacity was funded by short-term grants or other short-term budget allocations. As Legon et al. (2020) note:

More institutions may now realize that the effort required to develop quality online courses—creating accessible, digital content, organizing course components into a path for learning, rethinking student interaction, and using technology to enable effective teaching—are aspects of online courses that faculty must contend with alone, when ID or teaching/learning help is not available. (p. 35).

South African universities are now at a critical moment where the models of learning experience design they adopt, and how they fund and resource those models, will shape the digital learning spaces of the future. While web accessibility principles are an essential starting point, a learning design framework which seeks to create inclusive learning spaces for all students is most likely to build on the momentum towards equity in online design. Universal Design for Learning provides this framework.

6. Universal Design for Learning

While accessibility is focused on enhancing equity through enabling access for students with disabilities, Universal Design for Learning (UDL) provides a framework for thinking about inclusive online design for all students. UDL incorporates and extends accessibility. It is based on the idea that students are diverse in how they perceive and process information, how they navigate learning environments, and how they express themselves to demonstrate learning (CAST, 2018).

UDL grew out of the universal design movement in architecture, which aimed to make the design of the built environment accessible to as many people as possible (CAST, n.d.). Because the users of a building or physical environment are diverse, flexibility became a key concept of universal design. If a whole community is going to use a public building or environment, that environment needs to anticipate the needs of a wide range of users. Similarly, UDL aims to make the design of learning spaces accessible to as many people as possible. However, as Rose et al. (2006, p. 135) note, “[t]he idea of universal design transfers readily from the built environment to the learning environment, but its principles and techniques do not.”

The principles of universal design are not adequate for learning environments because learning environments should be designed to enable learning, not just access. Rose et al. (2006, p. 136) note that “providing accessible learning material is essential, but it is not sufficient. UDL requires that we not only design accessible information, but also an accessible pedagogy.” In the context of a learning environment, flexibility translates into increased student choice. Each of the three UDL principles seeks to expand student choice (Tobin & Behling, 2018).

The first UDL principle is **multiple means of representation**. This principle recognises that students differ in the ways in which they perceive and comprehend information. Students with disabilities may be unable to access some of the formats used to present information, such as audio or video content. Other students may find information in some formats is more accessible due to their perceptual or cognitive characteristics. Further, students who do not share the dominant language, or culture, or history of an institution may face barriers when the presentation of information assumes a common background among all students.

The application of accessibility principles can make learning materials more accessible. However, “[t]he goal of education is not only to make information

more accessible [...] The goal of education is to teach students how to work with information, including finding, creating, using, and organizing information” (Rose et al., 2006, p. 137). The principle of multiple means of representation therefore extends beyond providing accessible course material, to include considerations about how that material is selected and organised. The presentation of information should highlight key concepts, provide ways of linking that information to students’ diverse life experiences, and connecting new information to existing knowledge (CAST, 2018).

The second UDL principle is **multiple means of expression**. This principle recognises that students differ in the ways in which they can express themselves and demonstrate knowledge. Very often students are forced to adopt a specific mode of expression. For example, an assignment brief may ask students to submit a PowerPoint presentation on a specific topic. Unless mastering PowerPoint is linked to a course learning outcome, students should be given the choice to express themselves in text, in a presentation format, in a short video, or in a verbal presentation. Expanding the ways in which students are allowed to express themselves puts the focus on their learning rather than their mastery of a specific format. Rose et al. (2006) extend the principle of expression to ensuring that there are multiple mechanisms for student support and mentoring.

The third principle of UDL is **multiple means of engagement**. This principle recognises that students are engaged and motivated to learn in different ways. Some students are engaged by social activities and group work, while others find social situations stressful (Rose et al., 2006). Further, students have different emotional responses to learning activities. This requires that students are engaged and encouraged to develop motivation and passion for learning in multiple ways.

It is important to note that engagement is more than participation. Fredricks et al. (2004) identify three dimensions to student engagement. Behavioural engagement refers to compliance with behavioural norms, for example attending classes. Emotional engagement refers to affective reactions, for example feeling interest or enjoyment when learning. Cognitive engagement refers to an investment in learning. Building on Fredericks et al., Hollingshead and Carr-Chellman (2019) note that engagement facilitates learning, leads to meaningful student outcomes, increases student retention, and prevents boredom. The authors further argue that “[b]eginning the design process with learner variability in mind, followed by an intentional design of accessible materials, flexible methods, goals, and assessments, UDL-based environments can facilitate learner engagement and lead to meaningful learning outcomes” (Hollingshead & Carr-Chellman, 2019, n.p.).

7. Critiques of Universal Design for Learning

Collectively, the UDL principles aim to change the design of the learning environment and intentionally reduce barriers, so that all learners can engage in meaningful learning (CAST, 2018). However, UDL is not without its critics.

One line of critique is that the framework is too closely associated with disability rights, which leads to the argument that implementing UDL will only benefit a small number of students. As Fornauf and Erickson (2020) note:

[a]n unintended consequence of linking UDL with policies related to students with labelled disabilities is the conflation of UDL and special education. UDL is often misinterpreted as a special education initiative, or a framework only for students with labelled disabilities. (p. 184).

To overcome the potential reluctance to implement UDL, the benefits of the framework for all students need to be emphasised. Another critique is that there is limited evidence-based research to prove that the costs of implementing UDL result in substantial benefits (Murphy, 2020). Further, much of the research on UDL has been self-published by the Centre for Applied Special Technology (CAST), and the small proportion that has passed peer review has often focused on lecturers' ability to adopt UDL practices rather than on its effectiveness from a student perspective (Murphy, 2020).

A final criticism of UDL is that it is too idealistic, in that no design framework can ever cater for all forms of diversity. While this is certainly true, there is still value in pursuing an ideal which promotes equity. For example, large class sizes have plagued South African institutions for decades, leaving lecturers without many options for promoting engagement in their learning and teaching environments (McKenzie & Dalton, 2020). In such scenarios, it can be argued that UDL can be used to make learning and teaching accessible to enhance diversity, rather than catering for the non-existent "average learner" (Baglieri et al., 2011).

8. Implementing a Universal Design for Learning Approach

Web accessibility and UDL provide frameworks for learning experience designers to create more equitable online learning spaces. Given the scarcity of resources for learning experience design at South African universities, strategies for implementing UDL will need to be carefully considered (Pallit et al., 2018).

The "Plus One" approach to implementing UDL, as put forward by Tobin and Behling (2018), has been adopted by many American universities. The "Plus One" approach involves adding one more way in which students can interact with learning material, each other, and the teacher. To apply this approach to an existing course, lecturers are asked to identify learning activities in their course that students struggle with and to add one more (different) way for students to engage with the activity. This can be applied to learning materials (if there is a single format, add a second format), assessments (add a choice of topic or add another submission format), academic support (if students can attend group tutorials, add an option for individual consultations), and types of interactions (if

students are submitting individual work, add an option for them to work in pairs or small groups).

The “Plus One” approach is iterative and is intended to allow lecturers to gradually enhance student choice on how they interact with materials, activities, and peers in a course. This kind of approach seeks to implement UDL through small changes to course design, or small changes to online pedagogies (Tobin & Behling, 2018). Tobin notes that the “Plus One” approach is designed to provide an entry point to UDL and:

helps to take what otherwise might look like an insurmountable amount of effort and break it down into manageable, approachable chunks. It also helps people to determine where to start applying the UDL framework so they can address current challenges and pain points in their interaction... (Tobin, quoted in an interview with Lieberman, 2018).

The “Plus One” approach sees universal design as an ideal to aspire to, rather than a standard that one can implement. Students are diverse in how they perceive and process information, express themselves, and engage with learning processes. Given this diversity, a truly universal design that works for everyone all the time may not be possible. Implementing UDL is therefore framed as a process where the outcome is a change in lecturers’ or course designers’ mindset, rather than a specific measurable standard.

The reality at many South African universities is that online course components were rapidly assembled in response to COVID-19 restrictions, and the overall course design may not be well considered. This will make it difficult for lecturers to review these courses from a “Plus One” perspective at this stage. On the flip side, lecturers are actively engaged in designing blended and online courses. This creates an opportunity for interventions which support the creation of accessible course sites which embody UDL principles by enhancing student choice.

One obvious point of intervention is training for lecturers on how to use their university’s LMS. Building accessibility considerations into training on the LMS will raise awareness of the potential accessibility barriers when using different tools, and strategies on how to overcome those barriers. Critically, this training will need to go beyond “where to click” and include pedagogic content on the use of different LMS tools. Accessibility and UDL principles and approaches could also be included in professional learning opportunities for lecturers around teaching, curriculum development, assessment, and evaluation.

In the absence of institutional guidelines or minimum standards for online course sites, interventions at the training level will still rely on lecturers’ “mindset” to implement UDL, as they will decide which accessibility or UDL principles to incorporate into their course design. However, prescriptive institution-wide

specifications for online course design are likely to be met with significant resistance. The authors have noted that the space for collaboration on course and site design with lecturers grew during the pandemic, as lecturers seeking support willingly shared access to their online course sites. We believe this space is already closing and returning to a pre-pandemic mode where lecturers are protective of their course sites and less open to learning experience design advice.

Learning experience designers need to find new ways of collaborating with academics that promote equity through learning experience design without placing the full burden of implementation on the individual lecturer. Critically, these new collaborations cannot be seen as a technical process of accessibility compliance but must be integrated with course design and pedagogic choices. Grant (2016) makes this point strongly when she argues that it is well understood that good curriculum design is foremost, but it is not yet on many people's RADAR how critical visual, multimedia, and instructional design is to learning success. In turn, Peters (2011) reminds their reader that:

[d]espite the fact that there's plenty of evidence for its influence (see Richard Mayer's work as a starting point), the front-end can still fall victim to old school prejudices that the visual design is mere decoration or not a serious contributor to the experience. (n.p.)

Lecturers are unlikely to seriously engage with accessibility and UDL if they perceive the value of these practices as separate from curriculum design. Lecturers may feel that these matters fall outside of their domain and that they are not part of their job descriptions. Grant (2016) links learning experience design and online pedagogy through the concept of "design presence". She argues that the missing element of the community inquiry model (Garrison et al., 1999) is design presence. She then proceeds to define design presence as "both glue, cementing the other three presences together, and oil, reducing the friction that causes learners to disengage and disconnect when their learning experiences do not match their needs" (Grant, 2016, n.d.). The concept of design presence enables a focus on the use of interfaces, layout, multimedia, graphics, the configuration of tools within the LMS, and instructional design principles to enable learning.

As long as lecturers are responsible for developing their own online course sites, the lecturer's mindset is likely to remain the primary determining factor in successful implementation. Strategies to implement accessibility and UDL that integrate with curriculum design and course development processes, and that stress the contribution of accessibility and UDL practices to enable learning, seem most likely to engage lecturers. Such strategies could include a resource component to incentivise academics who spend time working on creating accessible course sites, or a capacity component where learning experience designers from faculty or university teaching and learning units are allocated to work with academics who express an interest in accessibility and UDL.

9. Conclusion

South African universities are at a unique moment where lecturers' awareness of inequities in student access to online course material, and focus on building online learning spaces, is elevated because of the ERT period. To capitalise on this momentum requires both a top-down and bottom-up approach.

With regards to web accessibility, a national regulatory framework which includes specific standards or refers to WCAG seems likely to emerge in the near future. Until such a framework exists, we suggest that universities adopt their own measurable standards for the accessibility of online learning environments and materials. Universities could select particular standards from WCAG or adopt WCAG standards in full.

While web accessibility standards are measurable, UDL is a framework rather than a measurable set of outcomes. As such, its implementation relies more on the lecturer mindset than on prescriptive standards. There is limited research on how to successfully scale UDL as a framework. Fovet (2018) argues that:

UDL remains a mostly individual choice for instructors and departments, and studies have yet to emerge on how such efforts might be scaled up to a whole campus dimension. Management of change has not been appropriately explored in this respect; nor has the implementation of UDL been examined within the relative complexity of the HE organizational lens. (p. 3).

To influence lecturer mindsets, we need collaborative processes which draw lecturers into discussions about UDL while working on activities that fall in the recognised academic domain, such as curriculum design and course development. Given the central position that students occupy in UDL, student voices need to be part of these collaborations and discussions. As Fovet (2018) notes:

UDL is an inclusive lens, but it will lose relevance unless it is able to evolve and retain a genuine and fresh focus on the main stakeholder in the equation: learners. Any design reflection must be foremost a vehicle for the voice of the user, and UDL must find a way to systematically integrate this perspective through everyday processes of classroom ethnography. (p. 4).

The combination of prescriptive web accessibility standards, and the infusion of UDL principles into course design and learning experience design activities, offers the potential for more equitable online learning environments that work for a wider range of students. While the concept of a truly universal design remains elusive, taking steps towards enhanced accessibility and aspiring to the principles of UDL are important steps on the road to developing institutionally sustainable ways of promoting accessibility and equity in online learning.

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