Case Studies: Understanding UDL (Universal Design for Learning)

A compilation of practical application of UDL in Action

October 2023

Contents

About these case studies

As part of ADCET's ongoing commitment to UDL the 'Advancing UDL in Tertiary Education' project has been funded by the Department of Education. The key focus for the activities for this project which runs from April to October include:

- expanding the UDL Community of Practice
- developing additional webinars and podcasts specific to UDL Initiatives
- hosting a UDL Symposium
- promoting and engaging with practitioners and educators to increase enrolments and improve completions of Disability Awareness eLearning programs
- developing case studies showcasing good practice in the implementation of UDL.

The case studies compiled here represent existing and emerging initiatives which showcase good practice in applying UDL. Our contributors across the university and vocational education and training (VET) sectors were asked to consider their practice across key indicators:

- background
- context or challenge
- approach
- outcomes
- impact
- lessons Learned

We hope that educators, learning designers and practitioners will gain value from these exemplars and we thank our contributors for their time.

Case Study 1: The intersection of UDL and cultural safety for Aboriginal and Torres Strait Islander learners

Project team

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Background

In 2020 Australian governments and peak Aboriginal and Torres Strait Islander representatives (Coalition of Aboriginal and Torres Strait Islander Peak Organisations) developed the National Agreement on Closing the Gap to address inequality experienced by Aboriginal and Torres Strait Islander peoples in Australia. The agreement included four reform priorities and 16 targets, of which two targets underpin this project:

- **Target 6:** Increase the proportion of Indigenous Australians aged 25–34 years who have completed a tertiary qualification (Certificate III and above) to 70% by 2031
- **Target 7:** Increase the proportion of Indigenous youth (15–24 years) who are in employment, education or training to 67% by 2031 (Australian Government Institute of Health and Welfare, 2021).

The Aboriginal Islander Education Officer (AIEO) program was a joint initiative between the Department of Education Western Australia and North Metropolitan TAFE. Implemented in Semester 2, 2021 the program saw the enrolment of 15 students employed by the Department as AIEOs in metropolitan primary and secondary schools. Both a Certificate III and IV in Education Support was offered with most students preferring the higher-level qualification. Of the 15 who started the program, 10 graduated in June 2022.

Context or Challenge

Aboriginal and Torres Strait Islander peoples have been marginalised from mainstream education and training because of a limited understanding by education providers of the cultural needs to be considered in course development. There were also challenges around accessibility to enrolment systems and organisational requirements (learning management systems, assessments in written format, enrolment periods). In the initial planning stages of the course the authors worked in partnership with an Aboriginal and Torres Strait Islander mentor to ensure cultural safety of the learners. This partnership continued for the first semester of implementation although ongoing consultation has occurred especially around assessment and learner communication.

Approach

The program was structured around the 'Three Cs': Cultural Safety, Communication and Contextualisation. The Three Cs having been influenced by the *8 Aboriginal Ways of Learning*, a pedagogy explaining the coming together of Aboriginal and/or Torres Strait Islander ways of learning. The '8 Ways' are categorised as community links, deconstruct/reconstruct, non-linear, land links, symbols and images, non-verbal, learning maps, and story sharing which complement the Universal Design for Learning (UDL) principles of engagement, representation, and action and expression (Yunkaporta, 2009).

Cultural Safety (engagement)

North Metropolitan TAFE (NMTAFE) fostered familial and community connections through an Aboriginal mentor employed specifically for the program. The mentor accompanied the non-Aboriginal lecturer (content expert with extensive experience in Aboriginal education) on workplace visits and provided support as needed. At the start of the course the lecturer and mentor sent out a welcome email with an attached survey. The survey asked about cultural safety requirements (e.g., were students comfortable to work with a non-Aboriginal lecturer, as well as any familial responsibilities). Relationship-building was at the core of the course approach, so the first few weeks were focused on the lecturer and mentor getting to know the students and building trust and respect. Halfway through the course, students were sent a second survey as a check-in and to ascertain if student learning and support needs were being met.

Communication

The survey sent at the start of the course also asked about communication preferences so the lecturer could plan accordingly. The preferred modes of communication were face-to-face and text. Students also had access to email communication and online web conferencing. In addition, 'hubs' were set up at three sites across the metropolitan area for students to meet in small groups or one-on-one with the lecturer to review learning materials or assessment requirements. The most successful strategy, however, was the workplace visits conducted by the lecturer and mentor.

The most significant course action was the inclusion of 'assessment yarning' as an alternative way for students to show what they knew. Students were able to tell the story of their experience rather than answering questions in a written assessment. While some students preferred writing assessments the majority preferred yarning to demonstrate competency to the lecturer on what they had achieved in the school, this would then be connected back to the unit criteria. Once a month the lecturer created newsletters highlighting student progress and initiatives in their schools. This was well received by the students and served as both an acknowledgement of their professional achievement and a motivator to keep engaging in the course.

Contextualisation

All learning materials were contextualised for the specific job role and connection to culture allowing students to be able to engage with the relevancy of the content. Images of Aboriginal children and AIEOs in the classroom were provided courtesy of the Department of Education and incorporated into the online learning materials. Assessments were also contextualised specific to AIEOs with particular attention given to the language used and that all mention of 'children' used the language 'Aboriginal and/or Torres Strait Islander children' to further link to the job role.

Outcomes

Prior to the implementation of the course, NMTAFE engaged in extensive planning on the best approaches to facilitate student engagement, representation, and action and expression. The following findings are knowledge and understandings gained and have informed the changes to be made in future delivery of the course to AIEO's or Aboriginal and/or Torres Strait Islander student cohorts. Outcomes include:

- building a relationship with each student prior to the course starting, and then maintaining this throughout the course utilising less formal communication methods (newsletters, check-in emails or texts) is key to student engagement and cultural safety
- students utilised the assessment yarning extensively

- students did not engage in the online learning materials as much as anticipated and preferred learning in face-to-face environments either during the 'hub' sessions or during the lecturer and mentor visits to the school. In addition, small groups of students formed their own study meetings, helping each other interpret and respond to the assessment requirements
- students required a slower course delivery sequence as work commitments, community obligations, and family responsibilities are of a higher priority
- individualised and whole group goal setting was an effective strategy
- lecturer competencies were enhanced particularly around the interwovenness of UDL and the *Eight Aboriginal Ways of Learning*.

Impact

The Three Cs were crucial to the success of the program and NMTAFE intends to continue to refine Aboriginal and/or Torres Strait Islander adult education in consultation with key stakeholders in the future. Placing UDL at the forefront of course planning was also key, rather than trying to retrofit UDL into an existing plan. To exemplify this, ensuring connectedness to community provided engagement, the approach to scaffold mastery in the workplace linked to representation, and the action and expression was exemplified through a narrative-driven assessment process.

Lessons Learned

The recommendations below are intended to be incorporated into future course delivery and assessment and represent knowledge and understandings gained after 12 months of implementation of the program.

- Relationship building with the student is crucial and needs to be maintained throughout the course. Links to community are also vital and learners should have opportunities for learner-driven study groups.
- An Aboriginal Mentor to assist with cultural safety is important at the start of the course.
- Online content is not recommended for student engagement however it should still be made available. The inclusion of face-to-face workplace visits where the learning could be tailored to an individual was a successful approach.
- Assessment yarning and workplace observation should be the main assessment methods with written assessment submission offered as an alternative.
- Course structure to be flexible and allow for the units to spread over a longer period of time based on individual student needs.
- UDL and the 8 Ways are implicitly interwoven and demonstrate that providing multiple means of engagement, representation, and action and expression, can ultimately lead to successful outcomes for all Aboriginal and/or Torres Strait Islander learners.

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About the Author/s

Jane Goodfellow is the winner of the 2017 Australian VET Teacher/Trainer and holds a keen interest in alternative and innovative training methods. Jane has worked as a TAFE trainer for over 25 years and is currently the Principal Lecturer in Education at North Metropolitan TAFE in Perth. Jane has spent the last six years focused on Universal Design for Learning and how applying the framework can support access for students with a range of unique learning needs.

Holly Gudsell is the winner of the 2023 WA Teacher/Trainer of the Year award who prior to joining North Metropolitan TAFE enjoyed an extensive teaching career including teaching in China, Africa and Fitzroy Crossing, a remote Aboriginal community in WA. It was here that Holly's passion for Aboriginal education was ignited. Having worked closely with Aboriginal staff and seeing first-hand their valuable contribution to schools, she has continued to work toward increasing the number of Aboriginal and Islander Education Officers across the Perth Metropolitan area.

Case Study 2: Understanding UDL (Universal Design for Learning)

Project Team

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Background

This project examined the implementation of a Universal Design for Learning (UDL) approach to an undergraduate university course at one institution. This approach aimed to provide students with multiple options for their learning mode and to listen to students' voices to understand the impacts. The insights gained guided reflection and further improvement of the course.

Context or Challenge

The university student population is increasingly diverse (Morina, 2017), which is to be valued and celebrated. In addition, students are facing challenges relating to the COVID-19 pandemic and financial pressure. As a result, university courses (subjects) have needed to adapt to provide more equitable and inclusive learning experiences for all (Lim & Ho, 2022). Students have diverse ways of processing, engaging with, and expressing information within their courses, and vary in their personal circumstances and needs (Beiter et al., 2015; Grimes et al., 2019). Whilst accessibility and wellbeing services are available, not all students feel comfortable sharing information about their needs (Grimes et al., 2017), nor are all eligible for formal support. For example, students may be carers for other family members, have substantial work commitments to support themselves financially, and some experience the symptoms of undiagnosed medical conditions. A proactive approach to catering to students' needs is required to account for the diversity of how, where, and when students can most equitably and effectively participate in learning. Providing multiple means for students to perceive, participate and engage in learning may be best achieved through a universal approach accessible to all.

Approach

Considering students' diverse needs and circumstances, one university course (subject/module) considered UDL to proactively enable students' choice over their mode of learning. The course had approximately 400 students enrolled across three university campuses. The course ran over one semester of 12 weeks. The course had multiple offerings from face-to-face to online, from weekly classes to intensive full-day classes. The more traditional weekly face-to-face classes were two hours in length and were offered at each campus for eight weeks. The course also offered weekly online classes two hours in length and one of the online classes was recorded each week so that there was availability of a recorded class for students to revise the content taught or to engage with if they were unable to attend the other modes of class available. This recording was provided in a way which enabled an inclusive experience for all, such as welcoming those who were joining live or watching the recording, providing independent equivalents of group work tasks, and ensuring the knowledge gained within breakout groups online was shared through recorded whole group discussions. There was also an option of intensive on-campus days (at the two main campuses) which ran for eight hours each day, with one day at the

beginning of the course and one towards the end. Students could enrol in the mode which best suited their needs and preferences.

Together, these multiple modes provided options for perception, action and expression, and engagement (cast.org). For example, there were either physical or digital means of accessing the class and course content (UDL Guideline 1). Students could select where, when, and how their studies took place, providing individual choice and a means of selecting environments which minimised threats and distractions (UDL Checkpoint 7.1; 7.3). It also enabled options for how students participated and expressed their learning within class (UDL Guideline 4; Guideline 5). For example, in the online class, students could verbally contribute, write in the class chat, or even participate anonymously on whiteboards. Being able to choose between in person and online modes also enabled students to vary the demands of accessing their studies, whether by reducing travel time, costs, or energy expenditure, or even the chunks of time available for their studies (UDL Checkpoint 8.2). Within each of the learning modes, further UDL principles were applied, however, this case study is taking a course-level view.

Outcomes

To understand the benefits of the different learning modes offered to students, it was important to hear from students themselves. A range of benefits were highlighted, centred around students experiencing more equitable opportunities to access, participate and engage in learning, responsive to both their learning needs and personal circumstances.

Students' voices on the on-campus intensive classes

Students expressed the benefits around "uninterrupted" content and recognising the links between each topic, leading to a more cohesive learning experience. Students mentioned this led to deeper learning as they could intensively focus upon one subject on that day which also assisted them to remember and understand the content. As students got to interact over the course of a day, some students expressed the social benefits and deep discussion which eventuated.

Regarding their personal circumstances, students expressed the many financial and time benefits of engaging in tutorials across two days. Students found that this mode of learning benefitted their work schedule and minimised the cost and time of travel. These benefits supported them with their time management fitting more easily around carer responsibilities, such as weekday school drop-offs and pickups.

Students' voices on the online weekly classes

Students indicated various benefits for their learning such as being able to learn in portions by working on content one week at a time. Students also expressed that the online mode was "more accessible". Learning was also able to take place in an environment which students felt comfortable in.

The online option enabled equitable access and participation in learning, such as having the ability to continue with their studies while maintaining their carer responsibilities, or when unable to attend face-to-face classes on campus. This too had financial and time benefits with students fitting classes around their work schedule and enabling them to both work and study, as well as reducing travel costs and time. Flexibility to join class from anywhere, even interstate or overseas was highlighted.

Students' voices on the recorded online weekly classes

Students emphasised the benefits of this mode to their ability to learn at a pace which enabled additional processing time or pausing and rewinding of the content. For some, this allowed for revision of the tutorial content, leading to a depth of understanding.

Regarding their personal circumstances, being able to access and engage with the recording meant learning was available in a time and place that suited their needs. Furthermore, knowing that the recording was available when unexpected circumstances occurred (e.g., illness, carer responsibilities, difficult circumstances) reduced students' stress and provided access to learning which otherwise would not have been possible.

Students' voices on improvements

Students suggested that online intensive modes and online classes after 5pm would further support their access to learning.

Impact

Overall, it was seen that students took agency in selecting the mode which best suited their learning and circumstantial needs and could access and engage in learning more equitably. For some students, this also had benefits for their mental health by reducing their level of stress. Hearing students' suggestions to further improve the course, intensive online modes and evening class options are now being explored for this course when it is next taught in 2024.

Lessons Learned

This project illustrated the benefits of providing options for students as a means of enabling equity and inclusion. While some students benefit most from on-campus learning, others benefit from online and recorded modes. Where some students benefit most from weekly classes, others benefit from intensive modes of study or accessing class in a time and place of their choosing. To cater to a diversity of students' learning needs and personal circumstances, multiple ways of accessing, participating, and engaging in their education is important. Furthermore, to truly understand the benefits and where areas to be strengthened lie, we need to listen to students' voices and provide safe opportunities for students to provide these insights.

About the Author/s

Stuart Woodcock initially trained as a teacher in England. Since then, he has taught in England, Canada, and Australia in primary and secondary schools, teaching in a variety of settings including mainstream, special education, and behaviour units. He currently teaches in a range of areas, including inclusive education, and special education, at undergraduate and postgraduate levels. His established research areas focus on inclusive education, self- and collective efficacy, and the systemic support that is in place for teachers and principals to manage, teach, and differentiate inclusively.

Elizabeth Hitches strives, through both research and higher education teaching, to foster inclusive and equitable learning environments where all students can reach their full academic and personal potential. Elizabeth teaches undergraduate and Master level higher education students in the areas of inclusive education, diversity, equity, and accessibility, as well as qualitative and quantitative research and analysis. Elizabeth is an Associate Fellow of the Higher Education Academy. Her research interests lie in inclusive education at a national and international level, as well as equity, achievement, and wellbeing for students with disability, chronic health conditions, and/or accessibility requirements.

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Case Study 3: Empowering all learners: UDL strategies to improve engagement and academic performance

Project Team

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Background

In the context of a first-year Introduction to Management (MGC1010) course, implementing UDL practices was crucial due to the diverse nature of the enrolled students who were from different faculties (because of double degrees), and a significant number of international students. By providing multiple means of representation, specifically by offering options for perception, the course aims accommodate diverse learning preferences, address learning challenges, and ensure equal opportunities for all students.

Context or Challenge

The UDL practice was developed to address specific challenges and barriers identified in the learning environment in this course. The traditional approach for content delivery in this course was through lectures in large lecture theatres which eventually transitioned to recorded lectures and provided limited opportunities for student engagement. We also observed that over the years, there has been an increase in the number of students diagnosed with attention deficit disorders which meant that managing cognitive load has emerged as a significant concern. Additionally, accessibility and inclusivity issues needed to be addressed to ensure that Deaf and hard-of-hearing students, and Blind or visually impaired students could fully participate in the course.

Approach

UDL was implemented through various strategies, technologies, and instructional practices. By offering multiple modes of accessing materials such as videos, interactive learning activities, and text versions of the content, the course ensures inclusivity and addresses the unique needs of different learners.

The content videos were stored in the video platform Panopto, which automatically creates captions for the videos thus improving accessibility for hearing-impaired students. Students could control the playback speed of the video which was helpful for international students who were not used to the Australian accent or students who had auditory processing difficulties. Videos also allowed for some of the essential processing to be moved from the visual channel (text and images) to auditory (voice). Keeping the videos concise (no longer than 7 minutes) prevented students from being overloaded with information.

Interactive learning activities were created by the Monash University Learning Transformation Team (LTT) using Adobe Captivate, which integrated interactive features such as roll over and reveal, click

and reveal, drag and drop, timelines, animation, and video scenarios. These interactive learning activities were designed to let students engage with the
content rather than just passively receive the information. Immediate feedback in the form of pop-up questions or end of the content questions, was also integrated. in the design of the interactive activities. To prevent cognitive overload, only a maximum of seven items of information were presented at a time (i.e., in one interactive activity).

Originally, the text versions of the interactive resources were developed to accommodate visually impaired students. Surprisingly, students who were not visually impaired also found them useful for note-taking, for keeping pace with the videos, and to reference during the in-class discussions. Collaboration with the LTT and the provision of transcribed materials in PDF format ensured accessibility through screen reading applications like JAWS, Window-Eyes, and VoiceOver.

Outcomes

The modifications made to the content delivery resulted in significant improvements in student engagement and consequently academic achievement. The percentage of unique students engaging with the interactive activities increased to 92.39% (compared to 42.18% for recorded lectures). Students also accessed the interactive activities at least 3 times (compared to 1 to 1.5 times for recorded lectures). Additionally, evidence from student evaluation comments indicated that the UDL practices improved access to learning opportunities for students with disabilities or diverse needs and fostered a sense of inclusivity within the classroom.

Impact

The UDL practices influenced student engagement and motivation by providing flexible learning experiences. Students had increased access to course materials, leading to improved understanding and retention of concepts which resulted in better academic performance. This was evidenced in the improved average mark for the unit from 65 to 70. We also saw a significant improvement in the overall course satisfaction scores from 3.4 to 4.11 (over 2 years).

Some of the learning materials developed in the course are used as examples in the University's training courses e.g., Structuring Your Moodle Unit and Take Teaching Online. I have been invited to share my experiences in the development of the course material in department, faculty and university workshops and showcases which highlight the increasing importance placed on UDL. The University also rolled out a new training course called Inclusive Education Practices in Higher Education in 2022.

Lessons Learned

Key insights from implementing this UDL practice highlight the importance of recognising and addressing diverse learning needs. Recommendations for implementing UDL include:

- leveraging technology to provide multiple modes of accessing content
- collaborating with instructional design experts and accessibility services
- ensuring ongoing professional development for faculty.

Sustaining UDL implementation requires continued support and resources, including training and workshops on UDL principles, accessible design, and inclusive teaching practices. Sharing best practices and experiences with UDL implementation across institutions can also contribute to the broader adoption of UDL and the promotion of inclusive education.

About the Author

Dr Jess Co currently works as an education-focused senior lecturer in the Department of Management at the Monash Business School. She has more than 25 years of university teaching experience specialising in management, entrepreneurship, creativity and innovation across universities in Australia, the UK, South Africa, Sweden and the Philippines.

Before joining the Department of Management, she worked as an educational designer with the Monash Business School's Teaching and Learning Team. She brings years of experience in curriculum and materials development and has taught in face to face, blended and fully online modes. She is also a fellow of the Higher Education Academy.

Case Study 4: UDL and Assistive Technology to support students with disability – an international perspective.

Project Team

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Background

Mohamed Zimnaan Samunn (the client), 23, is physically challenged. He is a motorised wheelchair user and needs 24/7 care. He was an international student from Sri Lanka at James Cook University, Singapore and completed his bachelor's degree in Psychological Science in December 2022. Currently, he is working for a non-government organisation (NGO) in Sri Lanka to gain experience in the field of mental health and well-being on his path to become a psychologist.

His passion is finding innovative assistive technology solutions that work for him and other people with disability which provide practical solutions for their learning, work, and daily living.

Mohamed Samunn and Ghazala Samunn have been assisting Zimnaan and supporting other students with learning differences as well as being his parents and primary caregivers.

Context or Challenge

When designing a positive digital learning environment for Zimnaan in university, we considered his lived experience, the UDL framework, and Design Thinking (DT) in special education which helped us design and develop a better personalised learning environment for him in the university.

Approach

A needs assessment was conducted by Mohamed and Ghazala in consultation with the learning support office of the university to understand and determine Zimnaan's varying levels of learning support, individual accommodations and personal assistance required (Inclusive Education Pyramid, AHEAD, 2017). Each of Zimnaan's higher education assessment tasks was considered carefully. Learning outcomes and assessment guidelines were carefully analysed, and then each task was broken down into smaller manageable steps. A user-centric approach was adopted, drawing ideas from Design Thinking (DT) principles on how Zimnaan's access needs could be addressed and how a usable learning environment could be designed for him.

From the UDL perspective, the following elements were considered:

- learner variability depending on the new context Zimnaan was in and his individualised transition planning process from a home-schooled environment to a university environment
- identifying his learning barriers and design a learning environment which can work around these barriers
- how Zimnaan could be better engaged in his new learning journey
- what accommodations, modifications, and/or adjustments would need to be done so that he could pursue his studies in the university
- how could he express or share the new knowledge that he gained in this journey.

In consultation with the learning support team at the university, we designed a learning environment for Zimnaan where his learning needs were considered, and a learning pathway was designed based on his learning needs. His learning engagement was monitored periodically, and necessary changes were made to the learning plan.

Outcomes

Zimnaan's university has Apple classrooms. He uses Apple products (an iPhone mounted on his wheelchair to navigate his smart home options, a MacBook, and an iPad with pencil to facilitate his educational, social, and emotional needs). Both the environments – university and home – were using Apple devices and this provided an advantage to him where his learning environment could be extended beyond his home to university. This enabled us to design one learning environment that could be accessed from the university, home, and ad-hoc environments like local cafes.

The instructional practices at the university – more than one way of presenting – helped him to utilise different media to organise his learning and assignments. One unexpected outcome was that Apple Singapore identified Zimnaan's talents in using Apple technology to overcome his physical disability and invited him to share about his lived experiences in two conferences, E[2] Connect (Nov 2018) & Digital Inclusion Festival (Jul 2019), organised by the Infocomm Media Development Authority (IMDA) of Singapore.

Impact

When we looked at the UDL framework in a special educational needs (SEN) context, and especially in a further education / higher education (FE/HE) context, two terms became very important to us in designing Zimnaan's personalised learning environment. Accessibility – a key term in any special needs context and Flexibility – the core idea of UDL. Flexibility in content delivery (in-person, online, and recorded sessions) helped Zimnaan to consume the subject matter and content of his lectures easily. On the other hand, the lesson discussions after lectures, during group projects, assessments and exam preparations through the LMS forums with fellow students and lecturers, individual and group email communications, WhatsApp group discussions, and voice calls provided flexibility in exam and assessment preparations. Moreover, writing assignments were done using assistive technology (mind-mapping app – Inspiration, speech-to-text technology – Otter.ai and Microsoft Word Dictate, text editing software, and plagiarism checker).

During the course of study, Zimnaan's ability and his passion and access to technology coupled with exploring new ways of approaching his learning, brought more learning opportunities for him which increased his student engagement and motivation. Zimnaan's self-esteem, self-efficacy, and sense of belonging saw new heights when he was in the university.

Lessons Learned

Personalising the learning environment helped create a positive environment for Zimnaan. He became confident that he could achieve in his studies while balancing his academic and social life. He

completed his bachelor's degree with flying colours, is now undertaking his job with great passion in a totally new environment, and he is planning to do his honours degree shortly.

This learning journey yielded some valuable lessons:

- the lived experiences of people guided us to ensure Zimnaan's accessibility in both academic and non-academic environments
- failure to design accessible lessons or learning environments will result in poor learning experiences. UDL was the guiding principle here
- appropriate learning supports – working around the challenges faced helped to build confidence and self-belonging contributed to Zimnaan's success
- we were very much focused and if the plan that we put into action did not work, we amended the plan but never touched the goal(s).

We also learnt to utilise Zimnaan's strengths and interests by experimenting and exploring ways that could leverage those interests.

About the Authors

Mohamed Samunn is an educational therapist. He has a master's degree in specific learning differences (SpLD) from London Metropolitan University and is currently undertaking a PhD in University Teknologi Malaysia (UTM) researching the learning needs of SEN students in post-secondary settings. He works one-on-one or in smaller groups with children and adults with support needs, typically outside of schools and workplaces coaching them skills and strategies to help them excel in studies. He designs formal and informal learning pathways with UDL and assistive technology for his clients to meet their learning differences or additional learning needs in class and workplace.

Ghazala Samunn was employed as a reservations and marketing executive for 12 years in the tourism hotel management sector. After her marriage, moving to the Maldives, she became a Travel and Tourism teacher, drawing on her vast experience in the hotel and tourism industry. She holds a bachelor's degree in psychology from Annamalai University, Tamil Nadu, India. She is the primary caregiver of their only son, Mohamed Zimnaan Samunn.

Case Study 5: Designing for Diversity: adopting a new mindset

Project Team

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Background

UDL is identified within the university's Teaching and Learning Strategy (2023 – 2025) to deliver effective learning experiences and maximise engagement. The target audience is unit coordinators of large (>200) first year units of students. This three-year project was launched July 2022 and will run in phases. Phase 1 is the duration of Semester 2, 2023.

Context or Challenge

Our data shows lower success rates for first year students and increasing achievement gaps for equity groups which includes First Nations, low SES, disability, regional and remote, and culturally and linguistically diverse students. The University's 10-year strategic plan (2022 - 2032) is committed to providing transformative education to an increasingly diverse cohort. The challenge is to shift mindset away from a one-size-fits-all and develop a culture that intentionally designs for the diversity that already exists within our cohorts.

Approach

After the initial UDL pilot project (two semesters from Sept 2021 to July 2022) a decision was made to simplify the way we spoke about UDL in order to foster buy-in and make it more achievable for academics. We adopted a five-step design thinking process that is underpinned by UDL and informed by the UDL Reporting Criteria (Rao et al, 2019). The steps are not intended to be linear but are used to guide conversations and intentional design based on:

- Who are your learners?
- What is the learning goal?
- What are the barriers?
- What are potential solutions?
- How will you reflect and iterate?

The Designing for Diversity project is led by an Educational Design Manager - UDL Lead and two Educational Designers from our central Educational Innovation Team. Unit Coordinators from large, first-year Units of Study were invited to participate in the Designing for Diversity Project.

Initially this comprised two face-to-face workshops to share information and resulted in 12 Unit Coordinators choosing to continue with the project. Educational Designers were invited to work with each Unit Coordinator to help them work through the five steps of designing for diversity. We guided them to reframe challenges for their students as barriers in the learning environment and then to come up with one solution that they would like to test out for the remainder of the semester. The unit coordinator was in control of how much they could take on board and who else they wanted to bring into their project team.

So far barriers being addressed in phase one of this project include those associated with the physical space in a science laboratory, course content that assumes prior knowledge, Canvas design that is confusing to navigate.

Outcomes

We are in the process of developing mid-semester data collection and this will vary for each individual project. This may include a short student survey, interviews with teaching team, attendance or achievement data.

We have a number of case studies that we developed with our UDL champions earlier in the year and these resources showcase how academics have been able to successfully identify and remove barriers through this coaching/mentoring process. In one instance, a 3rd year Pharmacy unit, the changes made to improve wayfinding for students by improving the Canvas design resulted in 100% of students attending their practical sessions with their prework completed.

From the academics' perspective this also saved them time (and frustration) by not having to chase up students to complete prework. The final USS data also yielded positive student comments about the design for the unit. We are aiming to gather more of these success stories to add to our Designing for Diversity Canvas resources available to all staff.

Impact

The success of the pharmacy unit has influenced other colleagues in the School of Pharmacy who are adopting a similar approach to Canvas design. We are seeing the positive impact from students through the increase in USS results and comments for the units that we have supported through this process.
We are also slowly growing awareness and building a UDL community by sharing these success stories through various channels across the University.

Lessons Learned

UDL projects need to be collaborative so that everyone understands the process of designing for diversity as this is more important than the end product. We do not want to prescribe or standardise how UDL is used, rather foster a cultural change over an extended period of time. We are building our bank of case studies to demonstrate that.
We have simplified how we present UDL to academics by focusing on the elements of student, clear goals, identifying and reducing barriers in the environment, and reflection and iteration. The framework itself can be too overwhelming at the start.

Drip feeding UDL language and approaches through multiple formats helps to spread a common language and mindset. We have done this through our team meetings, attending other faculty team meetings, presenting at internal and external symposia and conferences, writing blogs, hosting a monthly UDL chat and sharing resources on our intranet.

We have intentionally chosen to use the phrase 'designing for diversity' to describe what it is that we need to do. We can then introduce UDL as the tool for how we go about achieving that.

About the Authors

Sarah Humphreys is Educational Design Manager – UDL Lead, **Dr Ella Collins-White** is an Educational Designer, and **Dr Samantha Poulos** is an Educational Designer. All three work within the Educational Innovation Team at The University of Sydney. The Educational Innovation Team sits within the Deputy Vice-Chancellor Education Portfolio and offers focused and strategic teaching and learning support to faculties and personalised professional learning opportunities for those involved in teaching.

Case Study 6: Implementing UDL to support diverse learners in enabling programs

Project Team

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Team members	Christina Ung, David Amore, Emily Brennan, Dr Thach Nguyen

Background

Our target audience are international students completing Academic Pathways programs in ELICOS or Foundation Studies. My team works comes from Learning Design and User Experience design background.

In addition to our desire to support students' success and make our own practice more inclusive, RMIT had recently rolled out the Inclusion, Diversity, Equity and Access (IDEA) framework, so we are thinking about our role in bringing that forward.

Context or Challenge

Challenges and barriers are that 100% of our students do not speak English as their first language. They are also often encountering the Australian education system for the first time, as well as wider enculturation as international students.

Specific barriers in the learning environment are on pitch of language, cognitive load, no allowance for multiple forms of engagement or choice in how to demonstrate knowledge or skills.

Other challenges include attitudes, assumptions and lack of awareness amongst staff regarding supporting diverse needs. Additionally, different cultural understandings and approaches to disability means that there are often students who could benefit from accessing Equitable learning plans, but do not seek them.

Approach

We are in the process of implementing UDL principles, where possible, of multiple modes of engagement and representation (the action and expression part has been less of a focus as it is determined more by teaching staff and course leads). Practices include digital accessibility practices (contrast, alt text, heading hierarchy), and ensuring video content has closed captions, etc.

We continue to focus on cognitive load, and in particular our success to date has been in making course writers mindful of the cognitive load added by directing students to multiple online resources, each with distinct interface and interaction design. Key collaborations are with course writers, course

leads and teachers, as well as learning designers and learning technologists at the uni. Four out of five of our team have completed the UDL course through ADCET and have created a list of UDL actions and approaches we see as within our scope to implement 'quick wins' already in practice.

We have scheduled a UDL audit of the first iteration of the courses we worked on as learning designers, in preparation for consultation with teachers and course writers for the second iteration. Going forward, in a new project we will going deeper as we will be more involved in earlier stages of the course design.

Outcomes

It is too early to say what the impacts are on student learning or the outcomes. The change we have seen so far is in teacher practice and attitudes to UDL.

Impact

Again, at this stage it is too early. We have to compare this after the second iteration of the course has been written and taught.

Lessons Learned

Our implementation is partial rather than complete. I feel like these questions are better answered a bit later, overall. Lessons we have learnt so far, however, is that there can be push back from some staff who do not see the value initially, but if they see a before and after with the rationale as well, the buy-in has been great.

About the Authors

Christina Ung, David Amore, Emily Brennan and Dr Thach Nguyen are Learning Designers at RMIT Training where Jane Mitchell leads the Digital Environments team.