

APPLICATION OF THE IDEAL MODEL OF LEARNING TO INSTRUCTIONAL DESIGN AND MEDIA IN ONLINE LEARNING

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ABSTRACT

Authors discuss the iDEAL model of learning, which focuses on learning-centred approaches in online teaching with an emphasis on diversity, equity, experiential learning and use of technology including use of applications, interactive case conceptualisations, virtual demonstrations and exercises and diverse learner options to facilitate more engaged learning in collegiate courses. Authors will describe innovative instructional design approaches in online learning that highlight the ongoing need for fair, accessible, and inclusive course content in addition to highlighting the use of media to engage learners and provide opportunities for students to demonstrate learning through their preferred means of knowledge acquisition. Authors define key terms (diversity, equity, and inclusion) and investigate how educators can use tools in virtual classrooms to supplement traditional approaches to learning. This manuscript also explores practical approaches for the use of technology to enhance student learning.

INTRODUCTION

Mark Twain once said, 'I have never let my schooling interfere with my education' (Seybold, 2017). Twain recognised that attainment of knowledge was neither exclusively guaranteed through school nor was education an exclusive product of the school system. With the rise of online education, the necessity for fair, accessible, equitable and diverse learning experiences is imperative. Learners have demonstrated a need to have opportunities to grow and be challenged (Kumi-Yeboah & Amponsah, 2023). This translates into the necessity for instructors to create a safe environment in which students feel free to discuss different perspectives, viewpoints, and ability for exploration within these areas.

THE IDEAL MODEL OF LEARNING FROM AN EQUITABLE AND DIVERSE PERSPECTIVE

According to Harvard University Office for Equity, Diversity, Inclusion, and Belonging (OEDIB) 'diversity typically means proportionate representation across all dimensions of human difference,' equity refers to 'fair treatment for all while striving to identify and eliminate inequities and barriers,' and 'inclusion means that everyone is included, visible, heard and considered' (The President and Fellows of Harvard College, 2023, para. 12-14).

From an academic perspective, equity, diversity, and inclusion are essential concepts to consider when creating and facilitating course content that is not only accessible to a wider range of students, but meets the learning needs of students whose lived experiences do not always echo those of a traditional campus-based learner.

Another important concept is the iDEAL Model of Learning. The iDEAL philosophy, which stands for Instructional Design for Engaged Adult Learners, is a model of learning developed at the University of Massachusetts Global (formerly Brandman University). The engaged learning concept within the iDEAL Model de-centres the instructor from a position of authority and master of knowledge and, instead, the instructor becomes a guide as they assist students in the process of learning. In other words, the iDEAL Model is learning-centred rather than teacher-centred. The iDEAL philosophy aligns with what we know about adult learners: 1) that adult learners bring a vast reservoir of experience that should be considered when planning learning experiences; 2) they exhibit a readiness to learn that is based on a need 'to know something' or 'to do something.'; 3) that adult learners exhibit an orientation to learning that is task or problem-centred rather than subject-centred; 4) and lastly, they exhibit a relatively high degree of internal motivation (Brandman University, 2015).

BACKGROUND INFORMATION

Distance education programmes in counselling and behavioural sciences continue to trend and have done so for over a decade. In fact, the number of U.S. undergraduate college students enrolled in at least one online distance education course was 97 percent higher in 2020, during the pandemic than the prior year in 2019 (U.S. Department of Education, 2021). The post-pandemic landscape highlighted the increase in demand for distance education as well as many areas of need when it comes to accessibility within courses and programmes (U.S. Department of Education, 2021; Wan and Dean, 2023).

Virtual education employs a type of learning that tends to be more flexible and accommodating to the needs of adult learners and diverse student populations, including those who have limited access to on-ground campuses, when compared to traditional learning environments (Bosshardt and Chiang, 2016). Paradoxically, one misconception is that online teaching and learning mirrors the face-to-face experience, but simply uses digital tools and a virtual platform to make course content accessible. While the tools aid in accessibility, not all online programs use tools in a manner that aids or enhances the learning process. To paraphrase Kranzberg, 'tools are neither good, nor bad, nor are they neutral, and the same technology can have quite different results when introduced into different contexts or under different circumstances' (Kranzberg, as cited in Tate and Warschauer, 2022, p. 197). That said, while distance education programmes have made education more accessible and available to learners, virtual learning has shown to reflect a host of challenges that can impede student success if learning needs are not acknowledged and barriers are not removed.

Hart and colleagues (2018) found that, on average, students taking courses in online environments had poorer performance with regard to passing courses, receiving optimal or passing grades, and continuing on in the programme beyond the first course. Students were also more likely to have to repeat courses in an online programme. The aforementioned highlights the need to provide greater support to students in online programmes in an effort to not only make education accessible, but equitable, approachable, and meaningful with regard to individual students' style of learning. Students have demonstrated different needs for support during the educational process, even if they have equal access to educational content. The concept of equity (or equality) goes beyond student demographics to include

needs-based supports within courses, as well as removing barriers to participation, in order to reduce the potential for inequity or individual disadvantage (Claeys-Kulik, Jørgensen, and Stöber, 2019).

Given that online education has become omnipresent in modern times, educators are positioned to continue to develop practices in course content integration using whatever means necessary. Much of the recent research on online learning experience addresses the experiences of students in synchronous, asynchronous, and blended/hybrid environments (Fadhilah and Sutrisna, 2021). For example, research on the topic demonstrates that students prefer synchronous settings with peer-centred activities and the greater support of psychological and competency needs that were present in synchronous settings (Fabriz, Mendzeritskaya, and Stehle, 2021). In the past, traditional learning environments have hindered student learning by falling short of inclusivity (Salmi, 2020). One way to combat this need is by diversifying the course content and by integrating media, technology, and by including a variety of learning opportunities into courses in order to reach students in a manner that is conducive to their unique learning needs.

Universal Design for Learning (UDL) is a framework that was developed to guide inclusive learning in educational environments in order to make education accessible to students regardless of disability status and environment. This framework considers the needs of students with a focus on prosocial curriculum change, which places the need for intervention on the course content rather than placing the responsibility on the student to adapt to course content that is not equitable or inclusive (Meyer and Rose, as cited in Rao, 2021). Some of the main tenets of UDL include: 1) addressing variability in learners' strengths, abilities, experiences and learning preferences, 2) reducing barriers in curriculum and instruction, 3) and supporting the development of student self-awareness for strategic and goal-directed learning. This also includes purposeful integration of digital tools as a foundational online experience (Meyer et al., as cited in Rao, 2021). Some ways authors have integrated tools in the form of multimedia and technological applications are described in this manuscript.

CULTURALLY RESPONSIVE PEDAGOGY

As these various interactive tools for technology are implemented to facilitate meaningful interactions between instructors and students, additional research continues to emerge revealing that culturally responsive pedagogy (CRP) is essential in creating safe spaces for learning online (Educators Team, 2021). Courses that have a lens of awareness regarding cultural identities and varying perspectives provide an opportunity for connection and relevance within any educational environment (Kyei-Blankson, Blankson & Ntuli, 2019). It is essential that educators embrace culturally responsive pedagogy in a manner that does not feel haphazard or forced. Instead, educators are encouraged to ensure that the values of equity, inclusion and diversity are a core component of their coursework, programme, and overall university mission.

One important consideration is as follows: what does this look like in course design and instruction? It is essential for students to be able to 'see' themselves in the readings, the resources, the assignments and so on. There is an opportunity for different perspectives to be valued and viewed throughout the course and instruction. Some courses may use vignettes or case studies within their topic areas of expertise. It is important to incorporate the differing cultural background of students within their life or areas of study. By doing so, varied backgrounds, stories, narratives and perspectives will be more represented. The students may potentially connect with these vignettes or case studies and, as a result, widen their lens when thinking about the diversity of human experience and making sense of the content. By providing this opportunity to connect and the flexibility for students to use preferred learning methodologies, learners can continue to connect with different

perspectives, voices, and narratives. Finally, it is important to discuss classroom instruction, and this can be within the face-to-face classroom or online environment.

MEDIA COLLABORATION

The focus of this publication is the use of technology and media integration through the lens of the iDEAL model. It is important to consider the need to incorporate a positive, equitable and inclusive environment (as previously defined) for all students in order to promote fair and optimal learning. Media collaboration occurs between faculty and members of a media team or technological support team in order to create learning opportunities that extend beyond the conventional pedagogical approaches most students are accustomed to within the traditional learning environment. Keep in mind that while certain skills or tool sets may be required to create these innovative opportunities, most of the examples provided within this submission can be developed and created through online resources at no cost.

Virtual Brain Dissection

Most students who have taken a course on biopsychology or physiological psychology in a traditional classroom environment can agree that one of the major highlights in that course is the activity involving neuroanatomical dissection of the brain. So, how can this applied learning experience translate to students in an online environment? The answer is: using technology. Through collaboration with our Center of Instructional Innovation (CII), the virtual brain dissection activity came to life.

A member of the media team utilised tools to create a three-dimensional (3D) image based on a real-life magnetic resonance imaging (MRI) scan of a brain including the cerebrum, cerebellum, and brain stem. Course designers can create this same type of 3D image on free platforms such as Sketchfab (<https://sketchfab.com/>) or The Virtual Brain website (thevirtualbrain.org). Once the 3D brain is created, students in the course then use virtual tools to 'dissect' the brain. The model, being based on a real scan, increases the overall realism of the assignment. The brain is fully rotatable and can rotate around various axes in order for students to access a variety of different brain structures for external structure identification. Students are then prompted to make dissection slices of the brain with a virtual scalpel. The virtual scalpel is a mouse-based tool that the student can move, allowing the student to move the scalpel to the appropriate position on the brain to make a slice or cut. After the student is able to make the appropriate movement (or slice) with the virtual scalpel, different portions of the brain and internal structures are presented to the student.

The purpose of this activity is two-fold: to increase overall awareness of brain anatomy and functionality and to use visual learning to appeal to students' unique learning styles. This type of interactive assignment has provided students with the opportunity to engage with the material in a deeper, more meaningful manner, and apply the information to create a learning experience that is unlike others within the online environment. In addition, this exercise allows students to "do something" in a task-centred orientation which aligns directly with the iDEAL Model of learning.

While formalised data has not yet been collected for this exercise, qualitative data on student experience has been obtained to illustrate overall value and effectiveness within this activity. The main themes that have been noted in this subjective data (student quotes from student opinion surveys) centred on the extensive amount of information that was delivered in this exercise, application (being able to dissect a brain) and how fascinated the students were with this activity. The following is one quote that was written by a student that completed this activity within their biopsychology course:

"I am so glad we had the opportunity to do the brain simulation activity! It was so interesting and informational to me. I never really took into consideration how much is done and how small yet mighty our brain is! It amazed me how our brain is structured and how everything is labelled."

Interactive Vignettes

In the advanced psychopathology and diagnosis course, course developers incorporated media into the course consisting of interactive vignettes. Students are presented with a virtual 'therapist couch,' which provides interactive vignettes loaded with dynamic content. The couch is a digital representation of historic popular culture notions of therapy. Once students click the image of the couch, a list of 'clients' is presented to the learner. Closed-captioning and a written transcript are also provided for accessibility. During this activity, the students have the opportunity to analyse cases which present several scenarios to help students conceptualise diagnostic content. Each real-life vignette or scenario is presented, then followed by questions that prompt students to use clinical decision-making to present their rationale behind the potential diagnosis and recommended treatment planning. Based on the type of vignette, students identify areas of clinical concern by clicking on available options, identifying one or more primary diagnoses, presenting differential diagnoses, formulating treatment recommendations and making referrals. Students are also able to use an option of clicking on the 'therapist's case notes' in order to conceptualise the vignette from a culturally sensitive lens. Students are given real-time feedback on diagnostic considerations and recommendations in order to prompt students to use critical thinking to evaluate the macro and micro-level aspects of a client's presenting problem. The hope is that the student will engage in deeper, more interactive self-directed experiential learning, which aligns with the iDEAL model of incorporation of best practices and adult learning theory.

Use of Applications

Our newly re-designed cognitive psychology course integrates the use of modern applications ('apps') to put concepts and ideas learned within the course into practice. For this activity, students are given a list of approved applications that pertain to web-based self-testing of a variety of different cognitive abilities or impairments. The most frequently assessed domains were memory, attention, and executive function. The approved applications have existing information on psychometric quality (Charalambous et al., 2020). It is essential for students to understand the importance of efficacy and the necessity to use evidence-based tools when drawing conclusions. The approach to this course was to use applications that are well-validated and reliable with regard to identifying or measuring possible cognitive impairment, but also accessible to students of varying socioeconomic statuses (at no cost or involve a free trial).

Students are instructed to select a cognitive application, explain what the app measures, 'test' their chosen application and gather data (document their experience taking the test/playing the game). Students are given the opportunity to link theories of cognition that explain the cognitive functions identified in their chosen app, reflect on their overall experience using the app, interpret their results using knowledge learned from their course, discuss multicultural considerations, consider if the application presents a bias or is equitable across cultures, expand on validity and reliability, elaborate on strengths and weaknesses of the application, reflect on test result implications and provide recommendations about whether or not they would suggest the app to test cognitive function. This coursework utilises the iDEAL model, which blends current curriculum and the latest technology to facilitate student learning.

The following quote was written by a student that completed this activity within their cognitive psychology course:

"I recognise that there are a lot of 'apps' out there that measure intelligence and cognition, but I also recognise that these applications are not always valid or reliable measures. One aspect of this course that I found meaningful to my education was being given the opportunity to test and research an application that has been validated for testing. It helped me to make better sense of what it was that we were learning in the course when it came to attention and memory."

Diverse Learning Opportunities

The content presented in traditional learning environments, which largely consist of written assignments and assessments (testing), is not always conducive to unique student learning styles. That said, it is essential for faculty to give students the opportunity to express themselves with their preferred methodology of learning and reflection of knowledge, while also keeping the assignment options for content fair and equitable across students. Another strategy that can be used in course development and instruction is the creation and implementation of diverse learner discussion boards. Diverse learner discussion boards are discussion boards that focus on the same topic but allow the student to present content in varied ways. This may be through the traditional written response, presentation, media project or even a vlog/video. At times, students have received faculty permission to create a comic book series, animation, or complete newspaper on specific learning content. These opportunities attend to the different learning styles and experiences of our students. By allowing students to express learning in their preferred learning style, which may or may not be through writing, having multiple options to respond promotes fair treatment for all while striving to identify and eliminate inequities and barriers that may be embedded in traditional discussion board response style (set word count of written expression, for example).

FUTURE IMPLICATIONS

There are several notable future implications that can drive the ideas and concepts presented herein, which include consideration of how the concept of media effectiveness in instructional design will be measured, how to effectively measure student satisfaction with technology or diverse content, how to implement and measure effectiveness of educator training and how to measure overall content learned as a result of media integration. Topics of future investigation include the creative delivery of clinical content in online environments and proper training of educators to teach practical elements of clinical skill competency using media and technology. Overall, the authors are continually investigating 'what we hope to achieve' and 'what is the potential impact' of using media to enhance learning in an online environment.

CONCLUSION

In summary, innovation within digital learning is becoming standard practice. There have been numerous advances allowing students to connect with the material in a way that transcends previous models of learning and application. It is important for educators to move out of their comfort zone in order to embrace change and encourage learning from a more gestalt perspective. This new model of teaching has worked to create an equitable learning environment that is comparable, or even superior, to the traditional in-person teaching environment. There will continue to be an evolving landscape within the digital learning

realm, which will open doorways for learners, educators and universities. As a result, it is important to be flexible, continue to be open and work to recognise how these changes will assist in creating a new pathway of learning for all.

REFERENCES

Bosshardt, W. and Chiang, E.P. (2016) 'Target Teaching Lecture Capture Learning: Do Students Perform Better Compared to Face-to-Face Classes?', *Southern Economic Journal*, 82(3), pp. 1021-1038.

Brandman University (2015) *White Paper on Brandman iDEAL: Instructional Design for Engaged Adult Learning*. Available at: <https://drive.google.com/file/d/0B4KFXzIVi5AeZTVRWWpwR0pDS1U/view?resourcekey=0--jBckwbTnmzzTaaChv22w> (Accessed: 17 November 2022).

Charalambous, A. P., Pey, A., Yeung, W. K., Leroi, I., Neil, M., Thodi, C., and Dawes, P. (2020) 'Tools for app-and web-based self-testing of cognitive impairment: Systematic search and evaluation', *Journal of Medical Internet Research*, 22(1), e14551. DOI: 10.2196/14551: 10.2196/14551

Claeys-Kulik, A., Jørgensen, T. E. and Stöber, H. (2019, November) 'Diversity, equity and inclusion in European higher education institutions: Results from the INVITED project,' https://eua.eu/downloads/publications/web_diversity%20equity%20and%20inclusion%20in%20european%20higher%20education%20institutions.pdf (Accessed: 15 March 2023).

Educators Team (2021) *What is culturally responsive teaching?* Available at: <https://www.understood.org/en/articles/what-is-culturally-responsive-teaching> (Accessed: 17 November 2022).

Fabriz, S., Mendzeritskaya, J. and Stehle, S. (2021) 'Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19', *Frontiers in Psychology*, 12, pp. 1-16.

Fadhilah, M., Sutrisna, S., Muslimah, S. M. and Ihsan, M. T. (2021) 'An exploring methods in online learning: synchronous and asynchronous', *Indonesian Journal of Research and Educational Review*, 1, pp. 74-81.

Hart, C. M., Friedmann, E. A. Z., and Hill, M. (2018) 'Online course-taking and student outcomes in California Community colleges', *Education Finance and Policy*, 13(1), pp. 42-71. DOI: 10.1162/edfp_a_00218

Kyei-Blankson, L., Blankson, J., and Ntuli, E. (eds.) (2019) *Care and Culturally Responsive Pedagogy in Online Settings*. Hershey, PA: IGI Global. DOI: 10.4018/978-1-5225-7802-4

Rao, K. (2021) 'Inclusive Instructional Design: Applying UDL to Online Learning', *The Journal of Applied Instructional Design*, 10(1). DOI: 10.51869/101/kr

Salmi, J. (2020) *COVID's lessons for global higher education: Coping with the present while building a more equitable future*. Available at: <https://www.luminafoundation.org/wp-content/uploads/2020/11/covidlessons-for-global-higher-education.pdf> (Accessed: 12 November 2022).

Seybold, M (2017) *The apocryphal Twain: "I have never let schooling interfere with my education.* Available at: <https://marktwainstudies.com/the-apocryphal-twain-i-have-never-let-schooling-interfere-with-my-education/> (Accessed: 12 November 2022).

Sketchfab (n.d.) [Sketchfab](#) [website] (Accessed: 15 March 2023).

Tate, T., & Warschauer, M. (2022) 'Equity in online learning,' *Educational Psychologist*, 57(3), pp. 192-206. DOI: 10.1080/00461520.2022.2062597

The President and Fellows of Harvard College (2023) *Glossary of diversity, inclusion and belonging (DIB) terms.* Available at: <https://edib.harvard.edu/terms> (Accessed: 14 March 2023).

The Virtual Brain (n.d.) thevirtualbrain.org [website]. Accessed: 15 March 2023.

U.S. Department of Education (2021) *National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS).* Available at: <https://nces.ed.gov/ipeds/datacenter/DataFiles.aspx?gotoReportId=7&fromIpedes=true&> . (Accessed: 15 March 2023).

Wan, A. and Dean, F.A. (2023) 'Pandemic-transformational activities inclusive of remote learners', *Technology & Engineering Teacher*, 82(7), pp.8-12.