Flexible Learning Association of New Zealand

Principle venue: Victoria University of Wellington
Satellite venues: Auckland, Waikato, Palmerston North and Christchurch

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2021
FOCUS ON FLEXIBLE LEARNING
APRIL 14 - 15, ONLINE AND ON CAMPUS

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Principle venue: Victoria University of Wellington
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Distance and online learning became the only means for many educational institutions to keep the doors of learning open during covid 19. For some, this was an entirely new experience and uncharted territory.

What kind of support did countries require as they had to shift to distance and online education? First, there was a need for quality content, especially at the school level, which had the greatest number of displaced learners. Countries required support to map existing Open Educational Resources (OER), to their curriculum. Second, there was an urgent need for teacher training in distance and online education to ensure a smooth transition. Third, countries required support to leverage a range of technologies including print, radio, TV, and online, so that even the most remote communities can access learning. Fourth, with the move to distance and online education there was a need for alternative assessment and examination systems. In light of these experiences, what kind of flexible futures do we need so that no one is left behind?

The future will be a blend of online and in-person with a range of technologies that are affordable, accessible and available. Because of the digital divides, the technology must be placed in an appropriate social, cultural and political context. Institutions must develop policies that address the needs of the last person in the queue—women, girls, those in remote regions and persons with disabilities. The pandemic has forced the world to adopt self-directed learning—an aspiration that can only be realised if there is a clear direction for how flexible learning can be implemented. Learning approaches, credentialing and recognition strategies will need to change. What kinds of flexible curriculum and pedagogy do we need?

Education must address the needs of society as a whole, with tangible positive impacts on the world. What can we do differently? A successful outcome of education today is the acquisition of skills and competencies. A flexible future would go beyond that to empowering individuals not just to be prepared for change but to also shape the course of that change. Nothing short of a radical change in mindset would lead to flexible futures.
Naomi Holding, Chris Swan, and Madelyn Cotton-Kinch.
PRACTICE PAPER: Translating orientation to the online environment: A case example in higher education.

Outline
The impact of COVID-19 has forced traditional education providers to shift rapidly to online delivery and renewed the focus on blended and online offerings as a permanent modality.

Effective orientation programs aim to increase student engagement and prepare students psychologically and sociologically for future learning efficiency and success (Grier-Reed et al., 2012; Nguyen et al., 2018; Zepke, 2013).

For students who pursue online or blended learning – who more often come from historically underrepresented groups (Dodo-Balu, 2018; Stone, 2017; Stone & O'Shea, 2019) – an effective orientation may play a more critical role in preparing students for success in higher education.

Although students should have the same access to the resources, support and benefits, irrespective of their mode of study (TEQSA, 2019), Sliuzas and Brady (2015) note that students who fall outside of the semester 1, on-campus O-week are often overlooked in orientation programs. The current dearth of literature on orientation programs designed for students in blended or online contexts suggests that students’ needs in this area may be unrecognised (Watts, 2019).

To meet the needs of a burgeoning online cohort, Didasko (partnered with La Trobe University) has designed a purpose-built online orientation. The program includes a series of asynchronous interactive multimedia designed to prepare students for study success, as well as synchronous live sessions to facilitate peer-to-peer and staff connection.

Since the program’s introduction early in 2020, 84% of students completing orientation improved subject completion by 12.9% and retention by 14%.

Introduction
First impressions count, and at university important impressions are formed at orientation. Effective orientation programs aim to encourage social brand engagement between students and the university (Altschwager et al., 2018), enhancing students’ sense of belonging and connectedness (Sliuzas & Brady, 2015). But more than this, effective orientation aims to increase student engagement and prepare students psychologically and sociologically for future learning efficiency and success (Grier-Reed et al., 2012; Nguyen et al., 2018; Zepke, 2013).

Traditionally, students who pursue online or blended learning are from historically underrepresented groups, such as mature-age students, those with caring responsibilities (most of whom are women) or those from regional areas (Dodo-Balu, 2018; Stone, 2017; Stone & O’Shea, 2019). As such, online study is an important element in reducing educational inequity by broadening access to further education (Dodo-Balu, 2018; Stone, 2017).
Despite the importance of orientation, and the importance of distance/online education in resolving inequities in higher education access, students who fall outside of the semester 1, on-campus O-week are often overlooked in orientation programs (Sliuzas & Brady, 2015). This is a concern, considering TEQSA’s guidance note on technology-enhanced learning requires that students have ‘equivalent opportunities for successful transition into and progression through their course of study, irrespective of their educational background, entry pathway, or mode or place of study’ (TEQSA, 2019).

We proposed that students utilising alternative pathways or modes of entry to university would benefit from an orientation program that reflects their circumstances. Carruth et al. (2010) support this contention, noting that an online orientation can help students overcome academic barriers, set academic expectations and direct students to institutional resources. For students to whom learning technologies are new, it develops proficiency in the use of learning management systems and can simulate course activities, providing a perspective on what e-learning entails.

Development of such programs is, however, not without challenge. Stone (2019) notes that students are quick to recognise poor digital design. Learning content must be developed to suit the needs of online learners (Stone, 2017; Horvath et al., 2019), and content, pedagogy and technology requirements must remain specific to an online setting (Kehrwald & Parker, 2019; Koehler et al., 2004). Compounding these challenges, there is relatively little literature offering guidance or archetypal examples in this space (Altschwager et al., 2018; Watt, 2019).

The practice under scrutiny

Didasko specialises in e-learning design and digital content for higher education. Didasko partnered with La Trobe University to deliver bachelor-degree courses with nested qualifications (exit points) of Diploma and Associate Degree. These courses are delivered fully online with monthly start dates to accommodate the flexible learning needs of the cohort.

The courses attract later-in-life learners (average student age is 35) who did not follow the traditional university pathway. Approximately 50% study part-time and most students have work or carer responsibilities to accommodate in their study schedules.

The orientation design is underpinned by a literature review on student success, engagement, motivation, pedagogy and e-learning design, and a considered review of student needs over the period of a year. This included analysing pass rates, student feedback, withdrawal feedback, and general and assessment-related support requests to identify barriers to student success. This uncovered two key areas to address for this cohort: study confidence and technological competence.

Study confidence

Traditional online cohorts may lack confidence with their academic ability (Carruth et al., 2010; O’Shea et al., 2015). Johnson (2015) found that online students were more apprehensive and had lower expectations of academic
success compared to traditional learners. Students want clarity about learning, academic expectations and available study support (Taylor & Newton, 2013; Watts, 2019). Accordingly, the university should ensure the nature of independent learning and academic expectations are made explicit to students from commencement (O’Shea & Vincent, 2011; Meyers & Bagnall, 2017).

**Technological competence**

Studying 100% online requires technological competence, including use of learning platforms, which older students may not have experience with (Carruth et al., 2010). Taylor and Newton (2013) found students’ ability with technology was sometimes overestimated (by the university and themselves) and that orientation information should help address technical competence and support their study preparedness.

To provide flexible support in these areas the approach is twofold – with asynchronous and synchronous elements.

**Asynchronous (opens two weeks prior to course commencement)**

- **Course Orientation.** Four modules (Welcome, Vital Information, La Trobe Services and Your Learning Portal) detail the process of enrolment, navigating the learning portal, using relevant technologies and available services and support.

- **Study Ready Modules** designed to build confidence and equip the learner with the skills associated with study success. Resources include Referencing Essentials, Academic Writing, Report Writing, Essay Writing and Getting Organised.

The multimedia modules are self-paced, interactive and ‘gamified’ with badges awarded for successful completion. Well-designed gamification has been shown to increase student motivation (Buckley et al., 2016) and has been a critical factor in the success of massive open online courses (MOOCs) (Aparicio et al., 2019).

Lear et al. (2016) note that engaging in independent learning is an important skill tied to study success – and that the flexibility and accessibility of online learning provides an opportunity for students to engage in independent learning, not just at commencement, but throughout their studies. The ongoing availability of study ready modules such as Academic Writing and Referencing Essentials encourages self-directed learning.

**Synchronous (occurs during week one of course commencement)**

- Personal welcome call and email.
- A live course orientation session run in several time slots during the first week of course commencement.
- Live subject welcomes, with peer-to-peer activities.
- All live sessions are recorded and placed in the learning portal immediately upon completion to accommodate absent learners.
The synchronous activities connect staff to students and facilitate student-to-student connection, incubating informal social networks, identified as vital to study success (Kim et al., 2015).

Since introduction, 84% of students completed the study ready orientation, and subject completion has improved by 12.9% and retention by 14.1%.

Discussion/conclusion

Students’ mode of study should not affect their feeling of value or their access to university support and services. Research suggests connecting with students early and providing an orientation with clear expectations for success are important for online learners (Stone, 2019) and that an effective orientation creates a positive first impression and brand connection to the university (Altschwager et al., 2018).

This paper suggests that an orientation specifically designed for the needs of an online cohort may also have a positive effect on subject completion and course retention. Continuing research will investigate if a relationship exists between orientation completion and subsequent academic success and course retention. In addition, the effectiveness and balance of synchronous and asynchronous components, such as the impact of the asynchronous elements on self-directed learning and academic preparedness, and the synchronous elements in kickstarting the social networks and communities will be explored.

The relative success of this case should be considered in the context of the cohort it was designed for. This orientation program sought to address specific needs, and utilised modalities considered appropriate for this cohort, however, these elements may not be generalisable to others.

If certain principles of orientation program design are identified as appropriate for a variety of contexts and cohorts, the community of practice might benefit from a guiding framework on their use. However, these principles would need further research and investigation.

Take home message

If a strength of orientation lies in diversity of experiences (Altschwager et al., 2018), then omitting a customised orientation may disadvantage online cohorts and miss opportunities to engage and prepare them for study success. Didasko’s unique approach to orientation may offer a means to advance industry practice and bridge this gap.

References


Jay Cohen, Alice Brown, Petrea Redmond, Jill Lawrence, and Stephanie Foote. PRACTICE PAPER: An online engagement framework to support pivoting to online teaching during a crisis.

Outline
While online courses are becoming more common as a means of delivering higher education, many novice online educators and those who support novice online educators, often lack formal education in how to successfully teach online” (Cutri and Mena, 2020, p. 361). Online learning not only requires learners and academic teaching staff to be proficient with technology, it also presents many student engagement and pedagogical distinctions. Such distinctions are compounded when a lack of clarity exists between an online pedagogical approach and an on-campus approach, or indeed if the original design was centred around on-campus delivery. In such instances, considerations of online pedagogy practices may not have formed part of the learning design or teaching practices central to learning and teaching online. Compounding these difficulties for novice online educators has been, without question, the unexpected challenges associated with the COVID-19 pandemic, which has forced the transition of traditional on-campus teaching delivery to online teaching, astonishingly in a mere matter of weeks.

The practice and research detailed here utilises Redmond, Heffernan, Abawi, Brown, and Henderson’s (2018) Online Engagement Framework, for novice online educators ‘pivoting’ to online learning during the COVID-19 pandemic. The early findings from this research suggest that the Online Engagement Framework positively assisted novice online educators in planning, application, facilitation, evaluation and reflection of the online engagement strategies they implemented in their courses. Additionally, this research provided insights to inform refinements of the Online Engagement Framework in supporting teaching approaches to online learning and student engagement, for novice online educators and more broadly.

Introduction
In March 2020, in response to the rapid spread of COVID-19, the Australian Government enforced a number of restrictions on the Australian population. All Australians were asked to ‘socially distance’ in public spaces, such as workplaces and educational institutions. Such austere and arguably draconian limitations predestined higher education providers, both nationally and internationally, to act quickly, modify or ‘pivot’ their campus-based teaching and learning to a more flexible online delivery means of ensuring some level of business continuity. This event disrupted the traditional on-campus lecture and its corresponding pedagogical partner the tutorial, both traditionally pedagogical cornerstones of the higher education teaching environment.

Of those who were able to adapt and implement some teaching and learning flexibility, teacher presence and student engagement became central elements of facilitating learning online. This, in turn, escalated students’ reliance on the teacher. For example, a Course Coordinator participating in Stone’s (2019) recent
study suggested that “the engagement demands are completely different, the reliance of students on the instructor is much more intensive – basically you’re it” (p. 62).

Atherton et al. (2017) suggest that those students who frequently access the online learning material, are involved in discussion forums and/or other interactive learning aspects of an online course are “engaged” (p. 120). The premise is that when students are engaged, learning is more likely. As Krause and Coates (2006) highlight, “institutions are responsible for creating environments that make learning possible” (p. 2), and this occurs, in part, through “designing for learning” and effective teaching, with the final responsibility for learning resting with the students themselves.

What is challenging, especially for novice online educators, is how online educators can effectively engage students online? Particularly considering the distinct pedagogical and technological nuances associated with online learning and teaching comparative to on-campus teaching. Recognising this challenge, particularly during the recent crisis, a research team chose to investigate the efficacy of an existing Online Engagement Framework (Redmond, Heffernan, Abawi, Brown, and Henderson, 2018) through interviews with novice online educators and those who supported novice online educators worldwide.

A case study approach was employed, bounded by the online teaching experience (the phenomena) with multiple embedded units of analysis (the educators) (Yin, 2014). Case study is recognised as having a distinct advantage for its ability in supporting in-depth exploration of a phenomenon (generate principles or guidelines for pedagogic design and implementation and answer ‘how’ and why’ type questions) (Chadderton & Torrance, 2011; Yin, 2014). Data gathered contributes to the existing research on developing educators’ online teaching capabilities as well as informing conceptual, theoretical and practical knowledge of online engagement.

The research is significant in its capacity to inform responses to the COVID-19 crisis, as well as in better preparing novice online educators going forward. As such, this project has addressed the following research question; In what ways was the online engagement framework used to support educators pivoting to online teaching? The aims were:

1. Evaluate the efficacy of the Framework in informing and enhancing educators’ online pedagogical expertise;
2. Refine the Framework and contribute to theory, concepts and practical applications beyond COVID-19;
3. Use the data to contribute to building novice online educators’ capabilities in online pedagogy.

The practice under scrutiny

Research is ongoing but has been managed through, semi-structured interviews - conducted online through zoom (approximately 45 minutes x approx. 10 participants 1:1) as a means of:

1. Investigating their experiences as an experienced educator moving to the position of a novice online educator during and beyond COVID-19;
2. Examining participants’ use of the Framework and its effectiveness in enhancing their planning, application, evaluation and reflection of the online engagement strategies they implemented in their courses.

3. Seeking feedback about the Framework’s effectiveness in building their confidence and competence in online pedagogy and student engagement support. From this, the research team will refine and build on the existing Framework.

Analysis of the interviews has involved deductive thematic analysis (Brown, 2019). A filtering process was employed to determine categories and conceptual elements. A priori and open coding (Glasser, 2016) approach utilised alternative codes and themes based exploring emerging concepts, patterns and outliers beyond the a priori codes. Additionally, Nvivo (software used to analyse qualitative and mixed methods data) was used to validate hand-coding and to examine other nodes or possible themes.

Further revisions and refinements are currently being made to the framework to increase its effectiveness and efficacy.

Early findings suggest that there are significant challenges confronting novice online educators as they pivot from on-campus to online teaching. These challenges include:

- The requirement to make the enormous shift rapidly, with limited time, training, or resourcing;
- Working in isolation in home workplaces and under increased stress and duress from families in lockdown;
- Connectivity and technological competence and issues;
- The steep learning curve and the requirement to swiftly pivot to online learning and well as its associated pedagogical differences. Many educators retreat to didactic and transactional approaches to teaching not well suited to the facilitation of online engagement.

Additionally, the data collected to date details that those novice online educators utilising the Online Engagement Framework greatly assisted them in planning, applying, evaluating and reflecting on online student engagement.

Discussion/conclusion

The key themes emerging from the analysis of the data are that utilising the Online Engagement Framework significantly assisted novice online educators, or those having to pivot to online learning and teaching to engage students online. More specifically, and as stated, novice online educators confirmed that the Online Engagement Framework assisted them in planning for teaching, application and student engagement, facilitation of learning as well as evaluation and reflection on the online engagement strategies they implemented in their courses.

Take home message

Having a ‘quick reference guide’ or easy to navigate framework, model, or approach not only helps to alleviate some of the anxiety of pivoting to online
teaching, but contributes to novice online educators developing and embracing student engagement strategies for reflecting on the different types of online engagement. Finally using the Online Engagement Framework further supports novice online educators to consider the various means of engaging students online and assisting them in managing, planning, engaging and facilitating online learning.

References


Mark Nichols and Neeru Choudhary. PRACTICE PAPER: Elements of transformation in vocational online and distance education

Outline
A central objective for adult education is perspective transformation, in terms expressed by Mezirow (1991, 2000, 2009, 2018). Evidence from Choudhary & Nichols (submitted) suggests that vocational online and distance education has the potential to generate transformative outcomes in learners. Drawing from the same survey evidence, this paper explores those experiences participants described as adding to their sense of being transformed. The dataset consists of a survey of Open Polytechnic students (n=499) across 7 qualifications (6 discipline areas), who completed King’s (2009) Learning Activities Survey (LAS).

The purpose of the survey is to investigate the extent of transformative learning a respondent has experienced. Open Polytechnic is Australasia’s largest dedicated provider of online and distance education. The survey reveals that a variety of instructionally designed tasks contribute to transformation. The discipline being studied also contributes to transformation. Additional data gathered from follow-up interviews will be the subject of later work.

Introduction
Transformative learning theory holds that perspective transformation – the enduring development of a person’s understanding, the reformulation of their experience, and new ways of acting in the world – is a central objective for adult education (Mezirow, 2009). Transformative learning describes that element of education that transcends the addition of knowledge and skill into the broadening of reasoning, perspective, practice and outlook.

There is a lack of literature considering transformative learning theory in online education (Choudhary & Nichols, submitted), and the transformative potential of distance education is portrayed as an open question (Hoskins, 2013). Few studies address how transformative learning theory might be applied to vocational settings (Becker, 2017; Greenhill, Richards, Mahoney, Campbell, & Walters, 2017; Roessger, 2014); those that do tend to have limited sample sizes and highlight the variety of level, context and discipline vocational education is concerned with. Perhaps the dearth of comprehensive studies is the result of vocational qualifications tending to explicitly promote graduate performance rather than perspective transformation.

Transformation theory holds that perspectives are transformed when learners undergo critical self-reflection, whereby one’s incumbent views are challenged. Mezirow proposes 10 stages of transformative learning (King, 2009, p. 5):

1. A disorienting dilemma.
2. Self-examination with feelings of guilt and shame.
3. A critical assessment of epistemic, socio-cultural or psychic assumptions.
4. Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change.

5. Exploration of options for new roles, relationships, and actions.

6. Planning of a course of action.

7. Acquisition of knowledge and skills for implementing one's plans.

8. Provisional trying of new roles.


10. A reintegration into one's life on the basis of conditions dictated by one's new perspective.

The concept of transformative learning is related to Brookfield’s ideological critique and Freire’s critical pedagogy (Mezirow, 2018), in that the objective of transformative learning is to not only inform students as learners but to have them deepen as people.

Online and distance education is underpinned by instructionally designed materials provided to learners (Shearer & Park, 2019; Vai & Sosulski, 2016). Such materials serve as a learner’s primary means of instruction. Instructional design will typically start with the definition of learning outcomes, which serve as the basis for assessment and learning activities. The part-time, distributed student base and asynchronous nature of online and distance education make it difficult to employ the usual means of perspective transformation across adult students, particularly interpersonal discussion related to power dynamics (Brookfield & Preskill, 2005; Freire, 1972). In the case of vocational education task-oriented outcomes reduce the need for critical reflection, which is another primary means of promoting transformation (Mezirow, 2018).

In 2016 an online version of King’s Learning Activities Survey (LAS) was sent to recent graduates (from two years previous) and current students who had completed 50% of their Open Polytechnic programme, across different disciplines including Arts, Business, Teaching (Early Childhood Education, ECE), Information and Library Science, Legal Executive studies and Psychology. The population size across the programmes selected was 4,109; 405 survey responses across 7 programmes (both a Bachelor and Diploma in Business) were useful for analysis. Despite the vocational emphasis of the programmes of study, Choudhary & Nichols (submitted) demonstrated that vocational online and distance education can provide a transformative learning experience to students across a variety of discipline areas. This follow-up paper, drawing from the same data, explores those elements of the online and distance education experience were considered transformative by students.

The practice under scrutiny

The research project sought insight as to how vocational providers of vocational online and distance education might promote transformative learning outcomes in learners. Of the survey respondents (n=405), some 49% (n=198) reported that they experienced a perspective transformation during their Open
Polytechnic study. Of this number, 81% indicated that their transformation experience took place because of their course.

The LAS instrument provides respondents with a list of possible contributors to their transformative experience. Of the n=65 respondents who indicated a person influenced their transformation (recall that 198 students self-reported a perspective transformation), most (22%) indicated their lecturer’s support as being definitive (Table 1; note that multiple selections were possible). Lecturer support was particularly influential across Teaching (ECE) and Psychology disciplines.

<table>
<thead>
<tr>
<th>Influencer of transformation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Another student’s support</td>
<td>5%</td>
</tr>
<tr>
<td>A challenge from your lecturer</td>
<td>14%</td>
</tr>
<tr>
<td>Your classmates’ support</td>
<td>5%</td>
</tr>
<tr>
<td>Your lecturer’s support</td>
<td>22%</td>
</tr>
<tr>
<td>Another Open Polytechnic staff member’s support</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table 1: Percentage contribution of people to self-reported student transformation

It is important to note here that at Open Polytechnic courses are designed for independent study, that is, students will seldom be purposefully directed to contact their lecturer or other students. Of the n=179 respondents who indicated assignment work (i.e. study tasks) influenced their transformation, most (58%) indicated personal reflection was responsible – though 52% also indicated readings.

<table>
<thead>
<tr>
<th>Assignment (study task)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Class/group projects</td>
<td>15%</td>
</tr>
<tr>
<td>Verbally discussing your concerns</td>
<td>12%</td>
</tr>
<tr>
<td>Writing about your concerns</td>
<td>14%</td>
</tr>
<tr>
<td>An essay</td>
<td>37%</td>
</tr>
<tr>
<td>Personal journal</td>
<td>12%</td>
</tr>
<tr>
<td>Self-evaluation</td>
<td>42%</td>
</tr>
<tr>
<td>The non-traditional structure of a course</td>
<td>5%</td>
</tr>
</tbody>
</table>
Activity or exercise | 26%
---|---
Internship or placement | 6%
Lab experiences | 2%
Deep, concentrated thought | 29%
Personal reflection | 58%
Personal learning assignment | 21%
Assigned readings | 52%
Other (stated) | 11%

Table 2: Percentage contribution of study task to self-reported student transformation

The ‘other’ responses from Table 2 included ‘Further personal research’ and ‘The noho marae experience’. Some important caveats are required with reference to Tables 1 and 2. Firstly, the results apply to those students who self-reported that they experienced perspective transformation as a result of their studies. The LAS indicated that only 11 respondents progressed through all 10 stages proposed by Mezirow, hence participants considered themselves to have experienced transformation outside of Mezirow’s full framework (all had experienced at least 1 stage). Second, with respect to Table 2, it could be that the term ‘assignment’ misled respondents into thinking that actual assignments, rather than learning activities, were implied. This may have reduced the number of responses. Finally, it should be noted that not all Open Polytechnic courses make use of the same interventions. For example, lab experiences were primarily indicated by psychology students and was indicated by 3 out of 57 Diploma of Psychology respondents and internship or placements are used solely across the Teaching (ECE) discipline. Essays, personal readings and assigned readings, those study tasks with the highest association with transformation, were much more evenly spread across qualifications. There is no universal approach that guarantees transformation across every discipline, or even within disciplines.

Analysis was also performed on the influence of discipline on self-reported transformation. The effect of discipline can be seen in Table 3; Pearson chi-square tests indicated that transformative learning experiences vary across disciplines (Table 4).

<table>
<thead>
<tr>
<th>Subject area</th>
<th>No transformation</th>
<th>Transformation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Arts</td>
<td>11</td>
<td>44%</td>
</tr>
<tr>
<td>Business</td>
<td>101</td>
<td>58%</td>
</tr>
</tbody>
</table>
Table 3: Count of self-reported transformation by students across discipline area

Table 3 shows that students in disciplines such as Teaching (ECE) and Psychology, which emphasise self-reflection and self-awareness, tend to promote transformation whereas Legal Executive studies tend to focus more on subject knowledge. Of those Legal Executive students self-identifying as transformed, the highest attribution (n=4) was to assigned readings.

Table 4: Chi-Square tests of self-reported transformation by discipline area

While Table 4 shows a statistically significant relationship of discipline and self-reported transformation, it should be remembered that different disciplines make use of different instructional design activities toward very different graduate profiles.

Discussion/conclusion

It is clear from the findings that self-reported transformation from students in vocational online and distance education are influenced both by instructional choices and the discipline being studied. It should be noted that instructional choices and disciplines are, in fact, related; discipline areas such as Teaching (ECE) and Psychology lend themselves to self-evaluation and personal reflection activities. The importance of assigned readings and essays – both of which can encourage reflection and require a student to rethink their perspectives – are clearly important mechanisms for vocational educators to use in transforming students’ perspectives.

The findings from this study indicate two further conclusions. Firstly, instructional designers and teaching staff in vocational online and distance education can, and ought to, encourage transformational outcomes alongside their obligations to achieving qualification graduate profiles, even where those profiles
do not specify transformative outcomes. Deliberate efforts to encourage transformation can be made in both course materials and direct teaching interventions. Secondly, instructional designers have considerable influence over the level of transformation experienced by learners. Encouraging personal reflection and selecting perspective-challenging readings are two effective means for encouraging students to enhance transformation.

Overall, vocational education providers need not be overly concerned with the rate of transformation their students experience; the role of vocational providers is to ensure their students meet the graduate profiles of the various qualifications on offer. Vocational education is successful provided the requirements of qualification owners are achieved. If transformed graduates are required, it is up to graduate profiles to make this explicit.

**Take home message**

Lecturer support is an important factor in transformational student outcomes. A variety of instructional design and teaching activities also promote transformative learning in vocational online and distance education. While discipline areas tend to promote certain instructional design activities it is possible for any student to experience transformation and, while there are very useful instructional approaches, none is guaranteed.

**References**


John Milne. PRACTICE PAPER: Digital badges for professional learning development

Outline

Ako Aotearoa have been exploring the potential of digital badges and have started awarding them for those who successfully complete professional learning and development courses in adult literacy, numeracy and cultural capability for the foundation sector. Badges can add to traditional professional learning in several ways. They can help learners identify areas for development, help develop competency and help the learner share their achievements with others. This paper will outline how Ako Aotearoa implemented badges and key learning from the process.

Introduction

Ako Aotearoa aims to develop capability in the tertiary education sector to enhance learner success. We provide face-to-face and online professional learning development (PLD) and wanted to enhance this with digital badges.

In education badges are becoming more common as part of the micro-credential landscape (Roy & Clark, 2019; Ifenthaler, Bellin-Mularski & Mah, 2016). The potential of badges are positive impacts on learner motivation, identification of skills for the learner, and sharing of the skills to others such as employers, colleagues, whanau and family. These outcomes are not always realised, and badges need to be carefully implemented and evaluated to check that the learners are gaining value from the badges.

In the educational world badges are a symbol of the achievement of some learning outcomes. There are three key areas to a badge (Fanfarelli, 2018). The observable badge that signifies that the person has gained an achievement. The actions that need to be achieved to gain the badge. This could be the new skill that has been developed. The third area is the reward that the learner gains once they have earnt the badge. This could be a feeling of satisfaction at achieving the badge.

At Ako Aotearoa a badge is awarded to those who complete a distinct piece of learning. This can be an Ako Aotearoa course. In technical terms, a badge is a digital image that the issuer encodes with important information about learning or assessment. This information is called metadata and contains information about what the badge means, who received it, and who issued it. Ako Aotearoa awards shareable digital badges to show achievement and competency for educators and others who complete professional learning and development (PLD) with us.

The purpose of a badge is to provide a way of acknowledging, validating and sharing indicators of accomplishment. One advantage of badges is that they are smaller and more flexible than traditional credentials. An Ako Aotearoa badge signifies achievement and competency where the recipient, often a tertiary educator, can present evidence of learning and growth.
The practice under scrutiny

Throughout 2019 Ako Aotearoa piloted badges for learners who complete professional learning development. After several iterations a badge system was devised based on the Badgr tool that is now an integral part of some PLD courses. The key points in the development were as follows:

- To define what badges mean for Ako Aotearoa and define terms that we will use.
- To develop a badge process that incorporates the essential elements of PLD.
- To select a technology. We chose the Badgr tool to administer and deliver badges. This includes a badge backpack for participants.
- To guide facilitators on what badge metadata is required and provide an example of metadata that is used with badges.
- Consult on and develop badge images
- Develop instructions for participant and PLD facilitators
- Further work is required to review and evaluate the badging system.

Learners earn badges by successfully completing professional learning and development in the areas of adult literacy, numeracy and cultural capability (ALNACC). For each area there are four badges available (Figure 1):

- Badge 1 Input: Learning from workshop (face-to-face or online),
- Badge 2 Practice: Plan and implement ideas from workshop into practice.
- Badge 3 Reflect and review: Consider how the new approach supported learning. Reflect on what went well, what could be improved and the evidence you have to support reflections.
- Badge 4 Overall badge for completing all components
We selected the Badgr tool to provide badges. Badgr enables Ako Aotearoa to issue badges to learners, manage the process and provides tools for learners to share their badges. A key benefit was the flexibility of the system so that badges can be provided independent of the mode of course or the technology used to facilitate the learning. We use the online tools such as iQualify and Pathways Awarua as well as face-to-face workshops and can issue badges to those who successfully complete in any mode. Other features of Badgr are that badges can be awarded in bulk or individually. Badgr can list those who receive a badge and Badgr sends emails out to those who earn a badge.

One potential of badges is to quickly communicate learners’ skills and abilities (Hickey, Willis & Quick, 2015). The Badgr software helps learners share their badges with others using tools such as Facebook and LinkedIn. The learner can share their achievements with managers, a potential employer, colleagues or friends and family. The badge includes information about what the learner achieved which helps others understand how the learner developed in the role. Badgr has a system that can verify badges to ensure it was awarded correctly. This gives the professional network confidence that the badge is valid.

Badgr enables learners to manage their badges. They can organise their badges into collections. This provides learners with recognition of their learning and helps to document their professional practice. For instance one collection may be about cultural competence and shows the professional learning that has been achieved in this area.

Discussion/conclusion

Badges can help educators and others by providing a durable and shareable record of professional learning and development. Learners can use a collection of badges to map out what they have achieved over time. At Ako Aotearoa badges
benefit learners by providing a way to show that they have kept up to date with current knowledge and practice.

**Take home message**

Badges are relatively new to the foundation sector. It is important that educators and other stakeholders view badges as worthwhile and realise the potential benefits. Further work is required to raise awareness with learners and also the wider community. The benefits need to be explained and educators need help to realise badges potential. For Ako Aotearoa, the badge information is available in the badge webpage.

Further work is required. We will collect information on the badge experience for educators that will help to refine the process and help us reinforce the value that badges provide.

**References**


**Vanessa Scholes. POSTER: Kith-and-kin based online learning.**

**Outline**

This poster proposes and outlines a radical shift in approach to teaching adults online. The context is adult learners who are new to studying online (no contact classes). The approach addresses a major problem for these online home-based learners: time on task. In this approach, learners are required to nominate two kith or kin supporters for their learning, and the role of the teacher is revisioned to guiding the kith and kin to support the online learner.

Learners engage in some teaching of course concepts to their kith and kin supporters. The kith-and-kin approach rejects the conception of the learner as an independent individual in favour of a conception of an interdependent learner. The approach is rooted in values of reciprocity, courage, thoughtfulness and kindness. The poster will give examples of structure and activities that can be used in a kith and kin-based approach to teaching adults online.

**Fit with conference themes:**

- Flexible futures: the kith-and-kin based approach to adult online learning aims to address the wicked challenges of access and equity. The poster will acknowledge equity as a potential problem for the approach, and address this.
- Flexible models: the poster outlines a new pedagogy for online adult learners.
- Flexible pathways: the new pedagogy is aimed at, and envisioned as particularly supportive for, learners making a transition from previous experiences of contact classes to solely online learning.

Outline

Introduction: In light of the Syrian refugee crisis of 2011, and in the face of public pressure, the Government has increased the refugee quota to 1500 per year. Primary and social care providers receive little training in working with refugees, who have complex healthcare needs. An eLearning series was created to educate health and social care professionals how to work successfully with former refugees and their families.

Method: Instructional designers and primary healthcare educators at Whitireia NZ worked with Newtown Union Health Service (NUHS) to create an accessible, engaging, and inclusive eLearning series, ‘Enhancing refugee health’. Modules were designed to complete in approximately 30 minutes, creating a series of 2-3 hours self-directed learning. Following internal and external review, the series was piloted in November 2020.

Results: 14 participants including nurses (8), General Practitioners (2), Public Health Advisors (2) and administrative personnel (2) took part in the pilot study. Significant improvements in the learning outcomes ‘Understanding of the challenges faced by refugees on their journey to resettlement in New Zealand’ (4.50±1.16 vs. 5.92±0.83, p<0.001), ‘Understanding how to work with former refugees and their families’ (3.85±1.23 vs. 5.71±0.99, p<0.001) and ‘Understanding of what I can do to enhance the health of former refugees and their families’ (4.00±1.35 vs. 5.57±1.22, p<0.001) were found on completion of the module.

Conclusion: The Enhancing refugee health eLearning series can successfully deliver accessible education and training that enables health and social care professionals to provide the culturally responsive care refugees so richly deserve.

Introduction

Since 1987, the New Zealand Government have operated a quota system for refugees seeking shelter and safety from war, persecution, and environmental catastrophe. In light of the Syrian refugee crisis of 2011, and in the face of public pressure, in 2020 the Government increased the quota to 1500 per year (New Zealand Government, n.d.). Traditionally, following their time in Mangere Refugee Resettlement Centre, refugees have been settled in the main centres of Wellington, Auckland, Hamilton, Nelson Dunedin and Christchurch. However, with the higher quota and the increased numbers of refugees entering New Zealand, the Government has chosen to place refugees in regional centres, including Masterton and Levin.

One of the paramount needs of refugees is healthcare provision. However, the healthcare requirements of refugees can be very different from the those
without refugee backgrounds (Reeve, 2020). Many arrive in New Zealand with complex, unmanaged long-term health conditions, the physical effects of trauma and mental health issues relating to dispossession, persecution and living in constant fear. There are ethnic and cultural differences, language barriers, fear and distrust of authority and issues accessing health and social services (Tiong et al., 2006). Post migration factors, such as poor housing, poverty, discrimination and social isolation can also impact on mental, physical and emotional wellbeing (Hynie, 2018). Cultural norms may prevent women from seeking care, while cultural misunderstanding can cause offence to former refugees and healthcare providers alike (Kang et al., 2019).

Newtown Union Health Service (NUHS) is a Primary Health Care (PHC) provider with a large urban practice that has become a centre of excellence for the specialised treatment of refugees (Kennedy & Le Grange, 2009). NUHS tasked Whitireia with creating online Continuing Professional Development (CPD) training, which would enable practicing health and social care professionals to learn how to work most effectively with refugees and their families. Providing professional vocational education through workshops and face to face training was becoming increasingly problematic in the pre-COVID world. Therefore, providing flexible learning through online CPD training and education was essential in the delivery of this content.

**The practice under scrutiny**

Instructional designers and PHC educators at Whitireia New Zealand worked with NUHS to create an accessible, engaging, and non-threatening eLearning series that allowed participants to explore this topic privately, independently, and in positive learning atmosphere.

Crucial to development of these modules was the support and participation of the former refugee community. A working group was formed including members from Whitireia, NUHS, former refugees and ChangeMakers an NGO representing more than 17 refugee background communities in the greater Wellington region. Through ChangeMakers and community contacts, former refugees from Iraq, Syria and Eritrea agreed to participate in the modules. They were able to provide their perspective on the health and social care needs of refugees through the lens of their very personal experiences of resettlement in New Zealand.

The objective was to create a suite of engaging, interactive modules that explained realities and experiences of refugees in New Zealand, their healthcare challenges and social needs, while providing opportunities for participants to reflect on their own practice. The learning outcomes of the series are to understand:

- the challenges faced by refugees on their journey to resettlement in New Zealand
- how to work effectively with refugees and their families
- what you can do to enhance the health of refugees and their families

Each module included interviews with former refugees and best practice examples from subject matter experts and healthcare providers working with refugees. The modules were designed to take approximately 30 minutes to complete, creating a series of 2-3 hours self-directed learning. The modules were
created using Articulate 360 (Articulate, 2017) and was accessed via the 
CPD@Whitireia Moodle Learning Management System (LMS). Once developed, 
the Enhancing Refugee Health modules were reviewed and tested internally and 
then by NUHS staff to check any technical issues, content and suitability. 

This pilot evaluation is based on Kirkpatrick’s Evaluation Framework 
(Kirkpatrick & Kirkpatrick, 2006). The evaluation questionnaire contained three 
sections. The first section asked participants to rate their reaction to the content 
and applicability of the modules, while the second section explored the response 
to the various interactive tools. Both sections used a four-point Likert scale 
response format. The final section explored changes in understanding based on 
the learning outcomes and were charted on a seven-point sliding Likert scale, from 
low to high level understanding. Participants were first asked to retrospectively rate 
their previous understanding of each of the three learning outcomes before having 
completed the modules, and then reflect on their current understanding following 
module completion.

The Enhancing Refugee Health eLearning pilot evaluation began in November 
2020. The cohort of 14 participants consisted of nurses (8), General Practitioners 
(2), Public Health Advisors (2) and administrative personnel (2). 50% had no 
previous experience of working with refugees.

Participants were asked to rate their reaction to the modules using a four-point 
Likert scale response format, from one (‘Strongly disagree’) to four (‘Strongly 
agree’). All participants (100%) either agreed or strongly agreed that the series 
was engaging, useful, and relevant to their role. All participants (100%) also 
agreed or strongly agreed that they were more confident in their knowledge of the 
health needs of refugees, had a better understanding of how to care for former 
refugees, and all were confident that they could apply this new knowledge to their 
role.

While all the interactions were identified as engaging, 79% reported that the 
filmed content of the former refugees sharing their own personal experiences were 
the most engaging aspect of the modules. As one participant reported:

“Hearing the experiences of refugees has prompted me to more actively 
support nurses to think more widely and compassionately.”

Significant improvements in the learning outcomes ‘Understanding of the 
challenges faced by refugees on their journey to resettlement in New Zealand’ 
(4.50±1.16 vs. 5.92±0.83, p<0.001), ‘Understanding how to work with former 
refugees and their families’ (3.85±1.23 vs. 5.71±0.99, p<0.001) and 
‘Understanding of what I can do to enhance the health of former refugees and their 
families’ (4.00±1.35 vs. 5.57±1.22, p<0.001) were found on completion of the 
module.

Discussion/conclusion

Refugees fleeing war, famine and persecution do not choose New Zealand as 
their place of refuge, New Zealand choose them. As a result, the team at NUHS 
passionately believe that New Zealand must help refugees thrive and prosper in 
their new homeland. However, no one can live, let alone prosper without robust 
health and social care. The experience of PHC and social care provision involves 
all members of the practice, from receptionists and administrators, to PHC nurses,
midwives, physiotherapists, social workers and General Practitioners. All members of a healthcare team should understand how to communicate, engage and care for refugees. However, with the demands of a busy practice, health and social care workers must have access to flexible learning in order to undertake education and training they require. Previous studies have shown that carefully created online education can successfully address sensitive topics (Asbury, Addington & Orsborn, 2020) and issues of culture safety (Asbury & Orsborn, 2020), illustrating that eLearning can provide a safe environment to engage with challenging content. Therefore, this pilot has shown that online learning can enable health and social care providers to fully support our newest New Zealanders to enjoy good health in their newly adopted home.

**Take home message**

For former refugees and their families, engaging with health and social services can be daunting. Barriers are plenty and the need for accessible healthcare is paramount. By engaging with the former refugee community and experts in the field, Whitireia and NUHS have created an essential tool for health and social care professionals working with refugees. Flexible online learning provides accessibility to education in spite of geographic location, enabling all practitioners to undertake this essential training. Understanding the refugee experience, the impact of culture, religion and society can enable everyone working in health and social care to more successfully engage with the refugee community. The Enhancing Refugee Health eLearning series is a step towards providing the care and understanding our former refugees so richly deserve.

**References**


Journal of the Royal College of General Practitioners, 69(685), e537–e545.


Outline
This paper reflects on the development of a wiki-based academic continuity toolkit. We consider what informed our decision about the platform chosen for the toolkit, how the contents were developed, how we communicated with stakeholders about the toolkit, and what lessons were learned from its development and application.

Introduction
Academic continuity refers to the maintenance of operational integrity with respect to key aspects of the tertiary teaching enterprise, in light of significant disruption. In Aotearoa New Zealand a range of potential disruptions might occur, including natural disasters such as the 2011 and 2012 Canterbury earthquakes (SchWeber, 2008) or pandemics (Santibanez, 2009). Such large scale disruptions can inhibit or prevent staff or students attending their routinely available on-campus study sites. However, such disruptions can be mitigated with the development and deployment of a well thought-out, scenario-appropriate academic continuity plan (Day, 2015).

In 2020 and 2021 it has been the global Sudden-Acute Respiratory Syndrome Corona Virus 2019 (COVID19) that caused massive disruption to teaching and learning at our university. However, while Regehr and Goel (2020) identify academic continuity as a “pre-planning” activity, we were ill-prepared for what eventuated. Beginning in March 2020 staff and students were rapidly required to depart our campuses, “lock down” at home, and aim to participate in our academic programmes remotely.

We are academic developers working in Learning and Teaching Unit, an academic services unit in the University of Auckland’s Faculty of Medical and Health Sciences. One of only two faculty-level academic development units left at our institution following a recent restructure, we led the effort to “pivot” teaching to online delivery in our health profession and science coursework-based academic programmes—with seven working days of lead time.

Our strategy to support these programmes and courses included:

- A series of synchronous workshops, largely delivered online
- Programme-level continuity support
- Course-level continuity support
- An online academic continuity toolkit

This paper reflects on the development of this toolkit. We consider what informed our decision about the platform chosen for the toolkit, how the contents were developed, how we communicated with stakeholders about the toolkit, and how lessons learned from its development and application inform current
endeavours for more detailed academic continuity plans across several of our programmes.

The platform

Our decision-making about a platform was primarily driven by:

- What existing university resources within our institution could be brought to bear rapidly and easily, as there was no scope for establishing a new vendor relationship, or setting up a new tool that required managing a local server.
- How we would store and disseminate training collateral, including session recordings and slide presentation handouts.
- Which platforms were ones where our entire team could quickly create, refine and disseminate critical information.
- With a significant number of staff and students working with device and bandwidth constraints, what would be less bandwidth intensive and most likely to work on devices, regardless of operating system.

Our first potential platform was Adobe Experience Manager, the university’s web content management system (CMS), which manages the production of the university’s web presence. Only one of our team of five had editing rights to that system: editing rights were granted after completing six hours of compulsory training. As well, contents for the CMS were all sent for publication after approval by a communications staff person. This created would have potentially created a massive bottleneck, both from the rapid pace of new content development within our toolkit and when considering the multiplicity of institutional stakeholders all trying to concurrently use this platform in relation to various aspects of business continuity.

Having eliminated the internal CMS, we were left with two social media options: a web log “blogging” platform authenticated via our university Google account arrangements, or a wiki site. Either platform could have worked, but the weblog platform required managing editing rights within the specific site, whereas the wiki leveraged the existing university identification management system. In other words, the wiki was already available to the entire team.

Finally, the wiki’s largely text-mediated design meant the key information pages loaded quickly on any web-connected device. In the end we decided to create our toolkit on the university’s internal wiki.

For our videos we chose to use one of our team’s university Google account managed YouTube channel. YouTube does an excellent job of managing bandwidth dynamically, which proved to be important for bandwidth constrained stakeholders.

Content development

We next ascertained what sorts of support would address the needs of the greatest number of staff. The institution had suspended teaching for one week to enable a switch to remote delivery. We began our workshops the first morning of that week, offering five additional sessions by end of business on Friday:

- Introduction to teaching with Zoom
- Using screen sharing and PowerPoint in Zoom
- Etiquette and classroom climate in online teaching
- Zoom office hours (including waiting room function)
- Breakout rooms, whiteboard, and polls in Zoom

For those unable to attend the synchronous sessions, we shared cloud-based recordings. The videos were hosted on YouTube, but they were linked on our wiki. The slide handout PDFs were hosted within the wiki itself. The wiki’s dedicated *workshop and other instructional materials* page included links for both.

Other key elements of the toolkit were:
- Principles of remote teaching, which differentiated between courses designed as online courses versus the rapid to remote delivery pivot in which we were engaged.
- Learning activity alternatives, which mapped specific face-to-face learning activities with alternatives for online delivery.
- Assessment, including formative “assessment as learning” and summative “assessment of learning”, with a focus on the quiz tool in Canvas LMS, our institution’s learning management system.

We also created specific pages that offered step-by-step instructions to complete key tasks for rapidly pivoting to online delivery. These included selection and use of communication tools, how to set up and use your staff YouTube channel, an overview of the learning analytics affordances of Canvas LMS, and a “hack” for using a smart phone as a document camera via Zoom.

**Communications strategy**

There were a plethora of emails circulating during our first lockdown, which led to information overload for many stakeholders. Staff reported difficulties curating, prioritising and integrating the range of information generated at the institution, faculty, school, unit, programme and course levels. Many stakeholders were also endeavouring to curate information related to COVID19 itself.

Relatively early we made a decision to offer fewer, more concise comms to our stakeholders, with a focus to send fewer, somewhat longer emails. An enterprising academic staff member had fortuitously created teaching email listserv within our faculty: we decided to use this as our official communications channel. That allowed staff to subscribe to that listserv in a way that suited their needs, including getting a single daily digest of all messages from that list.

The Associate Dean Academic had instituted a weekly teaching update meeting for academic leaders within our faculty, a group whom we used to filter and disseminate key information. As the year progressed this meeting became fortnightly—though it was again weekly during our second Auckland lockdown in August.

**Lessons learned**

An integral—but silent—aspect of academic continuity planning is to offer staff and students confidence in the face of fear and anxiety. In creating our digital
toolkit rapidly, bearing in mind accessibility and ease of use, our staff indicated that this increased their confidence to rapidly pivot to online delivery of their teaching.

But timely and accessible materials are only impactful if the materials themselves provide the support staff need to maintain academic continuity. Across our various coursework-based health professions programmes, all cohorts of students completing their studies in 2020 were able to meet the university and their accrediting bodies’ requirements for programme completion.

We have prioritised supporting our standardised timetable professional programmes to revise their 2020 academic continuity plans to be future-proofed. This is with respect to further COVID19 disruptions, other pandemic scenarios, or human or natural disasters.

We are also currently analysing data from a mixed methods study of the experience of our faculty peers with maintaining academic continuity during the Aotearoa New Zealand COVID19 outbreak of 2020.

References


Anne Yates, Louise Starkey, and Holly Gooch. POSTER: Teacher professional digital competence in a post-Covid world.

Outline

If modern learners are expected to include the use of technology in their learning teachers need professional digital competence to enable this. The introduction of digital technologies and online learning environments into the schooling sector is changing the context of teaching (Selwyn et al., 2016) and schools are moving at varying speeds to becoming “digitally infused” (Starkey, 2020), but the global pandemic of Covid-19 instantly put schools into digitised teaching.

This poster will address the conference subtheme of flexible futures by presenting research that used the DigiCompEdu framework reflection tool (Caena & Redecker, 2019), and interviews to investigate a 2020 cohort of initial teacher education (ITE) student teachers’ perceptions of digital competencies they have and what they perceive they need for their careers. Statistical means of responses to the DigiCompEdu framework showed the greatest competence was with digital resources (M = 3.64) and teaching and learning (M = 3.46). Least competence was reported on assessment (M = 2.94) and professional engagement (M = 3.01).

Interviews revealed that student teachers are navigators in the unfamiliar territory of the education digital landscape. During ITE they meet roadblocks which prevent them from testing their full digital competence, they explore, come to crossroads where they make decisions on digital tools, encounter signposts that guide them in making choices, and begin to forge their own paths. ITE has a role to play in helping to develop maps to guide graduating teachers through this navigation of professional digital competence for teaching in the post Covid world.

Derek Wenmoth. KEYNOTE: Future Focused Flexible Learning

Since the emergence of the World Wide Web the boundary between distance education and in-person education has become blurred, resulting in a wide range of approaches emerging that form the basis of what we now regard as flexible learning. But what are the real drivers of disruption in our education system, and where might this take us into the future? In this keynote, Derek will discuss three drivers of disruption that are establishing the conditions for change in how we think about and design learning for the 21st century. He’ll use a range of examples from NZ and internationally to illustrate the ways these changes are manifesting, and highlight where the challenges are for traditional institutions as we move forward.
Gloria Gomez and Con Petsoglou. REFERENCED PAPER: OB3 media-rich documents with embedded discussions: lifting learning performance and engagement through interaction design.

Outline

OB3 media-rich documents with embedded discussions are a development in educational practice that enables academic staff to prepare curriculum content and enhance student engagement in asynchronous discussions. This advancement in feature development lies in two innovations in interaction design. The first innovative feature enables students and academic staff to author media-rich documents with basic technological skills (i.e. using MS Word, browsing the Internet, and communicating via email). The second one facilitates the process of embedding discussions inside curriculum content.

These innovations have lifted learning performance in three ways. Firstly; they remove the need of a technologist (e.g. course builder, multimedia consultant) in the preparation of media-rich documents. Secondly; students engage in asynchronous discussions with lecturers inside an OB3 document. Thirdly; students engage in authoring curriculum topics or reflective practice as part of assignments.

Project findings describe how these innovations have impacted educational practice, and a user case in a postgraduate programme in ophthalmic basic science is used to illustrate. The educational practices enabled by the creation, discussion, and sharing of OB3 documents can be qualified as innovative pedagogical practices according to the Creative Classroom Framework, and have enabled trends and addressed challenges identified by the NMC Horizon Reports. The implications of using OB3 for lifting performance and enhancing student engagement are the emergence of innovative pedagogical practices, the transformation of lecturers into partners of learning, and students into co-designers of learning.

Introduction

Educational technology for higher education has undergone great changes in product development in the last 12 years, due to emergence of customisable technologies enabling people to become creators of social media content. Because of this trend, higher education started to experience a shift from students as consumers to students as creators of technology (Siemens & Conole, 2011). This shift had two implications. Firstly, students were transformed into active participants of their own learning, which was first described as the personal web (Johnson, Levine, & Smith, 2009) and today as personalised learning (Adams Becker, Cummins, Davis, & Yuhnke, 2016; S. Bocconi, P. G. Kampylis, & Y. Punie, 2012b). In some learning ecosystems and depending on the educational technology put in place, this transformation can develop students as co-designers of learning and academic staff into partners, mentors or facilitators of learning.
Secondly, educators have been increasingly challenged to re-think their role due to the abundance of Internet resources (Johnson, Adams, & Cummins, 2011).

These changes above outlined have created an opportunity for the emergence of diverse innovative approaches and practices associated with collaborative learning. Some of these approaches are networked learning (Goodyear, Banks, Hodgson, & McConnell, 2004; Goodyear & Steeples, 1998), networked learning technologies (Kyza, 2013), complexity, connectivism, and rhizomatic learning (Blaschke & Hase, 2019). This paper reports on the research and development of a technology specifically designed to enhance online academic study through student active participation, collaboration, and reflection. An interaction design perspective leads decisions in feature development, which is informed by changes in our users behavior and concepts drawn from design and educational fields.

The problem being addressed

OB3 is a web-based application that enables the creation, sharing, and collaboration of media-rich documents with embedded discussions. This educational technology was developed as a response to two needs identified through working with our users. The needs were helping academic staff to undertake timely updates of study content to keep students engaged with curriculum content, and enhancing student participation in discussion forums.

Between 2004 and 2011 and based on demand from initial users, a cross-platform desktop application was developed to support distributing encrypted course materials via DVD. In 2007 we noticed that this format of course delivery was no longer performing for three reasons. Firstly, lecture notes were not updated as often as needed for logistical reasons, therefore students considered many of the lecture notes to be out of date, and in turn resorted to studying with alternative Internet resources. Secondly, discussion forums were used only for sharing information for exam preparation. Lecturers and students were not coming together to have a lively asynchronous discussion of study materials. Thirdly, the process of making a DVD was time-consuming and becoming difficult to meet semester start deadlines. Lecture notes prepared in Word were converted into webpages that included links to journal articles, videos and PowerPoint presentations.

In 2008 the early planning of the new OB version 3 (hence OB3) began, drawing on feedback from users, and from a one-day seminar event the company ran at a client New Zealand university. Through these initial activities, three interconnected needs were identified: OB3 needed to be web-based, with features allowing content to be authored and managed by our users without mediation of a technologist (e.g. software developer or multimedia consultant), and supporting embedding discussions anywhere within a lecture document (Gloria Gomez & Tamblyn, 2012a, 2012b).

The benefits of this next generation technology could help academic staff to undertake timely updates of study content to keep students engaged with curriculum content, and to enhance student participation in discussions. A decade ago, the expectation was that OB3 would enhance the online study learning experience of postgraduate medical education. Today, the expectation is to
develop an online study platform that can serve individual and group of users in their active and lifelong educational practices.

Figure 1. OB3 media-rich documents with embedded discussions (zoom in for details) or also review (G. Gomez, Daellenbach, Kensington, Davies, & Petsoglou, 2017)

**Study Approach: Interaction design with Bridging Design Prototypes**

This web-based technology, OB3, emerged from a project focused in research and development (R&D) to support activities in online academic study that relate to reviewing curriculum materials in varied formats or written assignments. This project was underpinned by a social interaction design methodology that is defined as “… the study and exploration of how people relate to other people through the mediating influence of products...” (Buchanan, 2001; 2005, p. 5). To guide our studies and explorations of the problem above described, a research claim was developed parting from the interaction design definition “*How lecturers and admin staff relate to students through the mediating influence of an educational technology for enhancing the online study learning experience*”

The studies and explorations in interaction design were undertaken using the Bridging Design Prototype method (Gloria Gomez, 2009; Gloria Gomez et al., 2020), which facilitates the process of undertaking research of novel educational products in natural settings using rapid functional prototypes. User communities accept to incorporate these prototypes in their natural settings while the R&D team uses them to learn about the context, the community, and the practices. Back in 2009 the user community were students and lecturers (all medical professionals) and their support staff. Today, the user community has grown to include academic
staff and students from other fields such as Business, Information Technology, Midwifery, Nursing, and Sustainable Practice. Now and then, our users are distributed globally, and often have basic levels of technological skills, and little or no time to learn new skills.

Based on reviews of documented activities, observations, and conversations with users about their issues studying online, guidelines and requirements were put together to inform feature conceptualization and design. Data analysis drew theoretical concepts from various sources including: 1) educational design that supports the efficient use of study skills that contribute to academic success (Bandura, 1986); 2) good visual design that facilitates learning, is cognitively effective, and helps us manage our work and thought (Kirsh, 2005); and 3) networked learning in which information and communication technology (ICT) is used to promote connections between people (Goodyear et al., 2004). Two decisions in interaction design radically changed the way our users study online and lifted their performance, which have been reported in more detail elsewhere (Gloria Gomez & Tamblyn, 2012a).

**First change in interaction design: a unique interface for authoring content with familiar skills**

Early research outcomes showed that the development of a unique interface for students and staff could enhance participation in content authoring by de-emphasising administration and emphasising support for study features. For example; reporting on marking research, Heinrich and colleagues suggested that administrative tasks should be targeted first by technologies for elearning, “to free up time that can be better invested in educationally more beneficial ways for the engagement with student work and the provision of high quality feedback…” (2009, p. 478). While Mehlhorn and colleagues, after comparing two technologies for enhancing online classes, concluded that an elearning technology could be quickly adopted if this is “…easy to operate for the faculty member… [t]he learning curve … is minimum, and most can be taught how to use [it]” (2006, p. 5).

Since our users organised study around the development and review of curriculum materials or written assignments, the new features scaffold the authoring of media-rich documents with familiar technological skills that capitalise on knowing how to use MS Word, the Internet, and email. Furthermore, this kind of authoring features support the efficient use of university study skills, in particular, the strategies of elaboration, organisation, and rehearsal, which contribute to academic performance, according to Bandura (1986). The performance of these strategies in online learning can be enhanced through good visual design and metacognition. Kirsh (2005) says, the use of good pedagogy in the design of online learning environments might be able to trigger or improve metacognition - an adaptive learning behavior “…the manner of displaying cues, prompts, indicators[, hints, and reminders to students] has an effect on how and when students notice them, good designers need to present those cues in cognitively effective fashion. They need to shape the affordance landscape” (p. 10). If materials are displayed tastefully and appropriate visual cues are used to differentiate headings, subheadings, quotes, body text, videos and images, online study might become more effective and motivating. Figure 1 shows the process of authoring content. Within minutes students and staff can: author, share, discuss, and annotate media-rich documents by typing, copying or inserting text; audio
recording; uploading files, photos or videos; pasting content from desktop and websites; and, creating documents, folders or courses. The app in turn produces beautiful, highly readable, scalable, structured media-rich documents. Another design requirement was to automate interactions irrelevant to study, but important to technology performance. To improve work efficiency, activities were automated such as document saving, transcoding media style formatting, recognition and creation of hyperlinks to websites and table of contents creation. Second change in interaction design: embedding discussions inside lecture documents.

Embedded discussions can be started in any element of an OB3 media-rich document that is a heading, a paragraph, a quote, an image, a video, an audio-recording, a table or oEmbed (e.g. Twitter or Facebook feed). Contributions to discussions can be also made in the form of text, images, videos or audio-recordings (figure 1). This design change is informed by early work in network learning. According to Goodyear and colleagues (2004, p. 1), networked learning is learning in which information and communication technology (ICT) is used to promote connections: between one learner, another learner and tutors; between a learning community and their learning resources. In an earlier study (i.e. SHARP EU project), this concept informed the development of a technology for creating “shareable representations of practice” for sharing knowledge during professional development.

Findings

The interaction design changes lifted performance and student engagement in three ways. Firstly, lecturers and administrative staff could develop curriculum content by themselves without the need of a technologist, and with the same skills they have already mastered for writing in MS Word, browsing the Internet, or communicating via email. A technologist, learning or educational designer is not required to support the development of a study document. Their support is now sought at a different level. Daellenbach et al. (2014, p. 572) reported that “The interface was crisp, clear and unfettered and it felt intuitive and user friendly.”

Secondly, student groups, students and lecturers, or academic staff could incorporate meaningful and collaborative study activities in their online academic programmes. They could engage in asynchronous discussions inside an OB3 document, as part of assignments lecturing or curriculum content. Thirdly, students engage in co-creating or co-designing curriculum topics or reflective practice as
part of individual or group assignments. Co-creation of study content could be done in collaboration with lecturers, or as part of student group work. Figure 2 presents the types of OB3 documents with embedded discussions that all OB3 users are able to create, share, and discuss. The Sydney-Otago case illustrates one way in which lecturers/teachers have had the opportunities to re-think their role in online study activities.

Figure 2. Concept map on the type of innovative pedagogical practices that OB3 users can develop
User case: Otago-Sydney postgraduate programme in Ophthalmic Basic Science

This course has been delivered across two Universities in Australia and New Zealand for the last 15 years. It has allowed for the incorporation of new innovations within the same educational platform to meet the changing requirements of students and lecturers (first with [OB2] DVD-based courseware, then OB3 from 2011). The platform supports a blended learning model well with students being engaged within each unit of study. OB3 was chosen due to several important advantages over other educational technologies:

- Straightforward intuitive design allowing ease of use by lecturers and staff often not familiar with technology, and students when using shared documents and asynchronous learning
- Collaborative development model to shape the platform to support innovation in teaching
- Allowed for international faculties to coordinate teaching on the same platform rather than trying to use the individual differing university software.
- Allowed for a single educational platform for content delivery and foster interactions between students themselves and students and with the academic staff.
- Integration with institutional LMS to simplify student login and reduce course administration

Figure 3 illustrates the kind of study documents that lecturers and students can author, share and discuss using OB3. The educational practices include lecturer or tutor-led activities in the creation for lecture documents. The lecture notes are shared with students for review. Developed with lecturer guidance, student-led assignments take the form of wiki page assignments and discussions around journal article summaries.

Figure 3. A concept map on how OB3 documents with embedded discussions are used in an Ophthalmic Basic Science postgraduate medical programme
Discussion and conclusion

The innovations in interaction design relying on the implementation of a unique interface for authoring content and the possibility of embedding discussions within a document promoted changes in the behavior of students and academics. Two frameworks (table 1) are used to qualify the significance and the practical effects of including OB3 as part of the learning ecosystem of the Otago-Sydney programme. Table 1 provides an overview.

Table 2. Qualifying benefits/practices with the Creative Classroom and Technology Adoption Frameworks

<table>
<thead>
<tr>
<th>INNOVATIVE PEDAGOGICAL PRACTICES EMERGING WHILE USING OB3</th>
<th>OB3’S ADOPTION HAS ENABLED TREND OR Addressed Challenge Reported In:</th>
</tr>
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<tbody>
<tr>
<td>DIMENSION AND RELEVANT BUILDING BLOCKS IN THE CCR FRAMEWORK</td>
<td>*NMC Report Global 2017</td>
</tr>
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<td>USER CASE: OTAGO-SYDNEY POSTGRADUATE PROGRAMME IN OPHTHALMIC BASIC SCIENCE</td>
<td>• NMC Report Europe 2014</td>
</tr>
<tr>
<td>• Lecture documents with embedded discussions</td>
<td>• NMC Australia 2016</td>
</tr>
<tr>
<td>• Coordinated group projects to undertake student-derived learning activities</td>
<td>• NMC New Zealand 2011-2016</td>
</tr>
<tr>
<td>DIMENSION CONTENT AND CURRICULA:</td>
<td>WICKED CHALLENGE: &amp; Rethinking the roles of educators</td>
</tr>
<tr>
<td>• Meaningful activities</td>
<td>LONGER-TERM TREND (5+ years): * Deeper learning approaches</td>
</tr>
<tr>
<td>• Lecture documents with embedded discussions</td>
<td></td>
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<tr>
<td>• Coordinated group projects to undertake student-derived learning activities</td>
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<tr>
<td>DIMENSION ASSESSMENT:</td>
<td>LONGER-TERM TREND (5+ years): # Rise of data-driven learning and assessment</td>
</tr>
<tr>
<td>• Engaging assessment formats</td>
<td></td>
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<tr>
<td>• Formative assessment</td>
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<tr>
<td>• Student-led online lecture development with multimedia content</td>
<td></td>
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<tr>
<td>• Exemplar marking tasks provide flipped classroom dynamic</td>
<td></td>
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<tr>
<td>• Clinically relevant assignments providing deeper learning objectives</td>
<td></td>
</tr>
<tr>
<td>• Administrative and monitoring software to allow lecturers to oversee and modulate student interactions in real time</td>
<td></td>
</tr>
<tr>
<td>DIMENSION LEARNING PRACTICES:</td>
<td>SHORT-TERM TREND: *Collaborative learning</td>
</tr>
<tr>
<td>• Self-regulated learning</td>
<td>WICKED CHALLENGE: # Students as co-designers of learning</td>
</tr>
<tr>
<td>• Personalised learning</td>
<td>DIFFICULT CHALLENGE: ^ Personalised learning</td>
</tr>
<tr>
<td>• Peer to peer collaboration</td>
<td>SOLVABLE CHALLENGE: Improving digital literacy</td>
</tr>
<tr>
<td>• Projects:</td>
<td></td>
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<tr>
<td>• Wiki-style co-written documents</td>
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<tr>
<td>• Journal clubs</td>
<td></td>
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<tr>
<td>• Student-led online lecture development with multimedia content</td>
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<tr>
<td>DIMENSION TEACHING PRACTICES:</td>
<td></td>
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<tr>
<td>• Soft skills</td>
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<tr>
<td>• Graded content and assessment tasks allow for gradual upskilling of students over a 2-year course</td>
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The Creative Classroom Framework (CCR) (S. Bocconi, P. Kampylis, G., & Y. Punie, 2012a; Bocconi et al., 2012b) is composed of eight encompassing and interconnected key dimensions which capture the essential nature of innovative learning ecosystems (see 2012a, pp. 8-10). OB3 enabled this programme to address 6 out of 8 CCR key dimensions through the implementation of 12 building blocks or pedagogical practices. Therefore, it has been able to “…fully embed the potential of ICT to innovate and modernise learning and teaching practices” (2012b, p. 20). See table 1, left column, and text in red).

The second framework is comprised by the NMC Horizon Reports Global and Europe (Adams Becker et al., 2017; Johnson et al., 2014), and the NMC Technology Outlooks of Australia and New Zealand (Adams Becker et al., 2016; Johnson et al., 2011). This report collection helps in understanding how the adoption of OB3 meets trends and challenges in technology adoption. OB3 has enabled our users to meet five trends and address four challenges. See table 1, right column, and text in purple.

The collaborative assignments with student-derived content (figure 3) are not only meaningful activities enriching content and curricula, but also learning practices promoting self-regulated and personalised learning, as well as teacher-student, and peer-to-peer collaboration. The collaborative processes involve lecturers and tutors sharing the development of study content with student groups via engaging assessment formats/projects benefitting individual students, alumni, and enriching the curriculum.

Student performance and engagement can be lifted when educational technology is purposely designed for transforming students into co-designers of learning and rethinking the roles of educators. Johnson and colleagues (2014) report on the implications of studying with such technologies. Firstly, students become curious and more engaged when given the tools and responsibility to design their own learning environments. Secondly, approaching students as

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>CONNECTEDNESS:</th>
<th>DIMENSION</th>
<th>INFRASTRUCTURE:</th>
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<tbody>
<tr>
<td>Multiple learning styles</td>
<td>Asynchronous discussion within lectures encouraging online interactions</td>
<td>WICKED CHALLENGE:</td>
<td># Complex thinking and communication</td>
</tr>
<tr>
<td>Multiple modes of thinking</td>
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<tr>
<td>Asynchronous discussion within lectures encouraging online interactions</td>
<td></td>
<td>MID-TERM TREND:</td>
<td>^ Growing focus on measuring learning</td>
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<td></td>
<td></td>
<td>LONGER-TERM TREND</td>
<td>5+ years): # Rise of data-driven learning and assessment</td>
</tr>
<tr>
<td>DIMENSION</td>
<td>CONNECTEDNESS:</td>
<td>DIMENSION</td>
<td>INFRASTRUCTURE:</td>
</tr>
<tr>
<td>Networking with real world</td>
<td>Provision of live lectures within programme</td>
<td>SHORT-TERM TREND:</td>
<td>^ Blended learning designs</td>
</tr>
<tr>
<td>Networking with real world</td>
<td>Ability to monitor discussions and interactions easily with inbuilt notifications in learning ecosystem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking with real world</td>
<td>Communication with students as to timetable</td>
<td></td>
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<tr>
<td>Learning events</td>
<td>Distance teaching with content always available</td>
<td></td>
<td></td>
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<tr>
<td>Learning events</td>
<td>Learning ecosystem incorporates demonstration videos, OB3 documents and learning apps within the platform across both distance and face-to-face units of study</td>
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</tbody>
</table>

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partners in learning design makes complex subjects more approachable, and present a pathway to more student-centred learning.

References


at the Fostering Successful Learning: instructional technology conference, Middle Tennessee State University.


**Kwong Nui Sim & Sarah Stein. WORKSHOP: Re-Constructing the Roles of Information & Communication Technologies (ICT) in Doctoral Research Processes.**

The session addresses the conference theme “Focus on Flexible Learning” aiming at innovative future focused solutions by proposing a framework that emerged from a funded project in 2018. The framework reflects the challenges and fallacies related to flexible learning and moves beyond questioning its actuality to embrace its extraordinary potential (Flexible Futures). This then turns the attention to the matters of ICT practices, particularly within in doctoral research processes that have the power to re-construct the use of ICT when augmented by new thinking (Flexible Technologies and Models). Lastly, the framework advocates for bridging transitions for both learners and teachers in the use of ICT for academic practices (Flexible Pathways).
Roxanne Hawi, Eva Heinrich and Sunil Lal. REFERENCED PAPER: Leveraging informal learning practices for broadening participation in university education: A Kenyan case study 2

Outline

Kenyan public universities primarily provide classroom-based courses. However, socioeconomic realities limit many rural-based learners from regularly attending classes. Interestingly, because of the willingness of Kenyans to further their education, informal education is picking up fast. Individuals are forming informal learning circles and have proactively found ways to use smartphones to access online educational resources.

This paper explores ways to leverage the strengths of these informal learning practices to enhance participation in formal higher education for Kenyans. One way this can be achieved is through blended learning. With blended learning, students will experience the convenience of online learning without losing the social on-campus interactions they are accustomed to. Currently, the use of blended learning in Kenyan public universities is not at the desired level. Lack of conventional computing resources (laptops/desktop PCs) due to economical constraints is a contributing factor. Given their widespread adoption, we suggest smartphones could serve as a viable platform for blended learning in Kenya. To explore this idea, a survey was conducted with 114 students in Tom Mboya University College (TMUC), a rural-based public university in Kenya. The survey examined students’ attitudes towards using smartphones in education.

Results indicate smartphones are already an integral part of the students’ informal education and the students have a strong desire to integrate smartphones into their formal education. We envisage that our research will contribute knowledge towards the adoption of blended learning in resource-constrained university environments.

Introduction

Globally, most public universities face significant budget cuts due to economic pressures. In Kenya this has led to the general lack of resources in public universities. For example, there are few classrooms, which further exacerbates the issue of overcrowded lecture halls (Gudo, Olel, & Oanda, 2011). As well, the paucity of technological resources limits the extent to which these universities can explore other teaching strategies such as blended learning or e-learning (Tarus, Gichoya, & Muumbo, 2015). Consequently, Kenyan public universities primarily provide classroom-based courses (Kashorda & Waema, 2014).

However, for some students, the classroom-based learning mode limits their ability to fully participate in formal higher education. For instance, in rural Kenya, socioeconomic realities limit learners from regularly attending classes. The collectivist culture and the subsistence lifestyle of this rural population means the students have a filial duty to contribute to the family’s income (GSMA, 2014). Fortunately, because of the willingness of Kenyans to further their education
(Gudo et al., 2011), informal education is picking up quickly. Firstly, individuals are forming informal learning circles. For example, Peer-2-Peer University (P2PU), an international organisation that leverages the potential of learning communities to increase access to higher learning, has partnered with Kenya National Library Services to provide free in-person courses and MOOCs across the country (P2PU, 2019). Secondly, despite the general lack of conventional technological resources (laptops/desktop PCs) in the country, Kenyans have proactively found ways to use their smartphones to access free online education. This is apparent when it comes to agricultural education. With 80% of the population relying on agriculture for their livelihood (FAO, 2018), there are several mobile-based applications designed to provide agricultural students with on-the-go learning content. For instance, the Kenyan government implemented a smartphone-supported programme, E-extension, that currently provides informal agricultural education to over 7 million farmers (Gichamba, Wagacha, & Ochieng, 2017).

This paper explores ways to utilise the self-driven motivation to learn and the tools used in Kenya’s informal learning sector, to improve the problematic resource-constrained situation faced in the formal public university education sector. The assumption is: 1) the collaborative nature of Kenyans will lead to the discovery of creative ways to mitigate overcrowded lecture halls and 2) the portability of smartphones will provide more flexible learning environments for learners who cannot always physically attend lectures.

**Problem being addressed**

To realise our mission of enhancing participation in formal university education in Kenya, we intend to explore blended learning. Acknowledging that there are several definitions of blended learning (Osguthorpe & Graham, 2003), herein, we define it as: the combination of classroom-based and technology-mediated instruction (Graham, Woodfield, & Harrison, 2013). Blended learning utilises the potential technology has in extending learning beyond the classroom but at the same time places importance on the need for physical student-student and student-lecturer interactions.

Blended learning has the potential to enrich university education in Kenya. The learners will be able to experience the convenience of online learning without losing the social on-campus interaction they are used to. For university management, blended learning will help mitigate overcrowding in classrooms since the students will not always physically attend the lectures.

Despite the affordances of blended learning, its adoption in Kenyan public universities is not at the desired level (Kashorda & Waema, 2014; Tarus et al., 2015). While there are many factors that stunt transition into blended learning, such as institutional policies (Graham et al., 2013) and pedagogical challenges, another factor contributing to this lag is the lack of conventional computing resources (laptops/desktop PCs). In Sub-Saharan Africa (Kenya included), only 19% of the population own laptops/desktop PCs compared to 80% smartphone ownership (Deloitte, 2016). It seems in spite of the noticeable poverty levels in these underdeveloped regions, individuals are still able to find practical ways to afford low-cost smartphones (Karlsson et al., 2017). Perhaps this is because unlike in the developed world where smartphones are largely used in the social context, in Sub-Saharan Africa, smartphones exert a far reaching influence that goes...
beyond the social context. Smartphones have become a necessity for accessing basic amenities such as finance, health and agriculture (GSMA, 2017a). Specifically, mobile money has become a lifeline for majority of the population and has provided access to financial services for the unbanked population (GSMA, 2017b). Evidently, smartphones play an integral part in the stabilisation/improvement of living standards of the Kenyan population.

Therefore, to actuate blended learning in Kenya, we deem it imperative to explore smartphones as primary learning tools in formal education. As outlined in the introduction, the general Kenyan population already use smartphones for informal learning. Hence, to build an evidence-base that this approach (smartphone-supported learning) could work in formal university education, we conducted a survey with students in Tom Mboya University College (TMUC), a rural-based Kenyan public university. The survey examined TMUC students’ attitudes towards using smartphones in formal education.

**Study design/Approach**

**The Case Study**

This survey is the first of a series of studies embedded in a larger case study research – ‘From Gimmick to Game Changer: A Study on the Use of Smartphones to Expand Access to Higher Education in Developing Countries’. Given the proliferation of smartphones in these aforementioned regions, the mission of the research is to examine how a student who owns a smartphone and does not have access to a laptop/desktop PC can successfully participate in a university course. The practical work mainly targets Kenyan rural learners because they face more socioeconomic barriers that limit them from fully participating in university education (WBG, 2018); Kenya serves as an example of a developing country.

The overarching goal of our research is to develop a framework that provides guidelines on how to successfully deliver blended university courses solely to a smartphone. While recent studies into the use of smartphones in educational settings explore ways to adapt laptop/desktop PC content for viewing on smartphones, they by far have not reached the extent possible (Livingston, 2009; Pimmer & Pachler, 2014). Little innovative work has been done on customisation of the content to fit into the capabilities of the smartphone (Farley et al., 2015; Parsons, 2014). Therefore, developing a framework that maps out how to facilitate blended learning through smartphones, could provide a foundation upon which other educators in developing countries who have a similar context to Kenya or have learners who study under the same restrictions can adopt the approach with little fine tuning.

**Survey Design**

- **Permission**

  Consent to collect data was obtained from NACOSTI – the government body responsible for authorising all research carried out in Kenyan Universities (NACOSTI, 2019), the management at TMUC and the survey respondents.
Before filling out the survey, respondents were made aware (in writing and verbally) that participation was voluntary, and they could withdraw at any time. Confidentiality was preserved by making the survey anonymous.

- Participants

A non-probabilistic convenience sampling technique was used to access TMUC students. Although literature (Creswell, 2012) shows that probabilistic sampling techniques in quantitative research are more rigorous and ideal for researchers who want to make generalisations, in our case, because TMUC had closed for holidays, we could only approach individuals who were available to participate in the survey. Due to unforeseen time constraints, it was not possible to conduct the survey when school resumed.

Creswell (2012) argues that although in convenience sampling researchers cannot ascertain the respondents are representative of the population, the sample can still provide useful data for answering hypotheses. So, based on the researcher’s knowledge, past experiences and support from TMUC faculty, the survey was extended to all potential participants across the six schools at TMUC. Due to the sampling technique used, there was no specified sample size for the survey and a total of 114 responses were collected.

- Data collection and Analysis

The survey was a month-long activity. Data was collected using a structured questionnaire administered as an anonymous online survey. The questionnaire was adapted from an existing instrument by Ahmed (2016) and consisted of 42 questions that were divided into 3 parts. Part-A gathered nominal data about the participants’ characteristics (age, gender, enrolment level; smartphone ownership and expertise; and students’ awareness of free online learning resources). Part-B and Part-C gathered ordinal data with 5-point likert scales, ranging from strongly-agree to strongly-disagree. Part-B explored participants’ perceptions on using smartphones for various academic activities. Part-C assessed the participants’ current usage of smartphones for education. The questionnaire items were distributed as follows: Part-A = 9; Part-B = 13; Part-C = 20. A response was required for each question.

Descriptive statistics were calculated using Microsoft Excel 2019. Cronbach’s Alpha coefficient was used to evaluate internal consistency (the extent to which a set of items are interrelated).

Findings

For internal consistency, a Cronbach’s alpha ($\alpha$) of 0.8643 was recorded for Part-B and 0.9572 for Part-C. The participants’ responses were skewed towards Strongly-Agree and Agree inferring there is a high degree of interrelatedness among the items. This indicates satisfactory reliability of the survey (Cortina, 1993; Gliem & Gliem, 2003; Tavakol & Dennick, 2011). In the calculation, Part-A was excluded because it largely comprised of demographic data. While the high alpha (> 0.9) in Part-C could suggest duplication of items, after a thorough review of the questions, we conclude this is not the case. However, because this section (Part-C) addressed one construct, ‘Current Smartphone Use’, similarity between some items did exist.
Part-A Results

79% of the sample were male and 21% female. This is expected since the current TMUC enrolment rates (source: TMUC Academic Registrar) show that there are more male students (1050) than female students (630). As illustrated in Table 2, all the participants own smartphones and 95% selected the smartphone as their preferred device for education. This is noteworthy; it validates the device ownership trend we presented in the literature review. No participant selected desktop PC as an ideal device for education. This could be because, generally, Kenyan public universities have few computer labs (Kashorda & Waema, 2014). As anticipated, more than half of the respondents know at least one free online learning resource. This potentially indicates that TMUC students supplement their formal coursework with informal learning resources.

<table>
<thead>
<tr>
<th>Table 1: Part A: Demographic Data (114 responses)</th>
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</thead>
<tbody>
<tr>
<td>Respondents’ profile</td>
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<tr>
<td>Gender:</td>
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<tr>
<td>Male</td>
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<tr>
<td>Female</td>
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<tr>
<td>Age:</td>
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<td>18-20</td>
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<td>21-25</td>
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<td>Over 40</td>
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<td>School of Education</td>
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<td>School of Business and Economics</td>
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<tr>
<td>Second</td>
</tr>
<tr>
<td>Third</td>
</tr>
<tr>
<td>Fourth</td>
</tr>
</tbody>
</table>
Part-B Results

Q6 in Table3 shows that almost all the participants like the idea of recorded lectures. This justifies our assumption that integrating online learning into the current classroom-based lessons could enrich the educational experience of many TMUC students. Q7 implies that if TMUC does implement online learning, the students would like the LMS to have the mobile function enabled. Unlike web-based LMSs, mobile-based LMSs allow offline access to content – this is ideal, given the varying environments in which students usually use their smartphones.
Part-C

The data in Table4, indicates a high inclination of using smartphones for university education. For example, Q9 demonstrates that 94% of the participants get pleasure using their smartphone for learning. This could be attributed to them feeling the smartphone increases their productivity as illustrated in Q6. Consequently, it is not surprising that in Q5 and Q8, 97% agreed the cost of their smartphone is worth it; and 96% reported regularly using their smartphone to access educational resources. Although Q3 shows 12% of the respondents disagree that using their smartphone for education is effortless, Q1 proves that all the participants are confident they can easily learn this skill – which is an essential skill to learn given that most existing university pedagogies do not comfortably support smartphone use.

Q12 in Table4 supports our argument that Kenyans are generally social learners. This is further backed up by the data in Q11-Q13 in Table3 which indicate practically all the students were in favour of the idea of collaborating online with their peers and lecturers. While we are aware that smartphone use (especially in social networking sites) could indeed be a source of distraction in studies, one way to mitigate this issue is for instructors to start creating activities/resources that support the way students already use their device in daily life (Farley et al., 2015; Tossell, Kortum, Shepard, Rahmati, & Zhong, 2015). Doing so could potentially cause the students to increasingly perceive smartphones as learning tools. As it is, items Q17-Q20 in Table4 suggest that TMUC students have a strong desire to continue using their smartphones for study.

<table>
<thead>
<tr>
<th>Q</th>
<th>Activity</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Using mobile apps (applications) for learning</td>
<td>48</td>
<td>51</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Taking notes during lectures</td>
<td>33</td>
<td>62</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Reading e-books</td>
<td>37</td>
<td>61</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Using online resources</td>
<td>32</td>
<td>65</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Searching for educational resources</td>
<td>36</td>
<td>64</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Viewing Video or Audio recorded lectures</td>
<td>38</td>
<td>59</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Taking assessments, quiz, surveys and polling</td>
<td>29</td>
<td>68</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Submitting assignments</td>
<td>34</td>
<td>64</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Asking the lecturer questions</td>
<td>27</td>
<td>72</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Communicating with friends for educational help</td>
<td>34</td>
<td>66</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Using Social Networking sites for learning</td>
<td>31</td>
<td>66</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Collaborating online for learning</td>
<td>32</td>
<td>67</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>Collaborating with faculty for educational help</td>
<td>30</td>
<td>68</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Discussion and conclusion

The survey results demonstrate that TMUC students are happy to use their smartphones for formal education. The next step in our case study is to look at the lecturers’ attitudes towards smartphone use in formal education. For this, we have an unpublished paper that indicates TMUC lecturers are flexible and willing to integrate smartphones into their teaching. Going forward, we plan to redesign an existing classroom-based TMUC course into a smartphone-supported blended course. The aim is to determine the requirements and decision points that emerge in the adoption of blended learning at TMUC. For example, what institutional policies, learning and teaching strategies need to change to accommodate a blended course?

In conclusion, although there is a general lack of resources in Kenyan public universities, the self-driven motivation of the population to further their education has resulted in them proactively finding ways to continue learning in these resource-constrained environments. Kenyans are forming informal learning circles and using their smartphones to access informal online education. In light of the aforementioned, we propound that by leveraging the strengths of the informal learning practices of this community, it is possible to enhance participation in formal higher education – thereby removing one more barrier to full participation in university education for Kenyan learners. We envisage our research will contribute knowledge towards adoption of blended learning in resource-constrained university environments.
References


Outline
How do we guide students in learning a subject that they want to learn as a module? How do we empower students to determine how, what and when they want to learn meaningfully? How do we do so in a fully online environment? These are questions that motivate this paper. This paper describes how an online ‘Design-Your-Own-Module’ (DYOM) has been operationalised using the Community of Inquiry (CoI) framework in partnership with students conducted in a fully online environment. We applied the seven principles of Col to guide us in scrutinising our practice.

Introduction
The Design-Your-Own-Module (DYOM) with supervision initiative at National University of Singapore (NUS) aims to encourage students in exploring learning beyond their own disciplines and to empower students in their learning journey by giving them more flexibility in planning their studies (National University of Singapore, n.d.). In this regard, DYOM is an application of Flexible Learning, defined as “empowering students by offering them choices in how, what, when and where they learn: the pace, place and mode of delivery” (AdvanceHE, n.d.).

Partnership between students and teaching staff is crucial for a successful DYOM, hence our scrutiny on the application of Students as Partners (SaP) framework (Figure 1). Partnership is a relationship in which all participants are actively engaged in and stand to gain from the process of learning and working together (Healey et al., 2014). DYOM expands from the traditional space of learning, teaching and assessment to include the space of curriculum design and pedagogic consultancy, while opens the areas of subject-based research and inquiry as well as scholarship of teaching and learning (SoTL) with students.
This paper aims to scrutinise how the SaP framework is applied in an online DYOM.

The practice under scrutiny

In August 2020, ten undergraduates pursued a DYOM with supervision on collaborative leadership, facilitated by two staff. The students and staff were from the same living and learning community, hence a sense of community had been developed significantly even before the start of DYOM.

As the module was held amid the Covid-19 pandemic, it was conducted fully online, in both asynchronous and synchronous modes. To foster purposeful inquiry where students and facilitators could assume increased responsibility and control to pursue the topic of study, the following seven principles distilled from the Community of Inquiry (CoI) framework developed by Vaughan, Cleveland-Innes, & Garrison (2013) were adopted in designing the online module:

1. Design for open communication & trust
2. Design for systematic inquiry, discourse & critical reflection
3. Create and sustain sense of community
4. Support purposeful inquiry
5. Ensure students sustain collaboration
6. Ensure that inquiry moves to resolution
7. Ensure assessment is congruent with intended learning outcomes
The module facilitators adopted the following five interrelated principles for good practice in partnership with students (Matthews, 2017) which guided meaningful, power-sharing, and influential partnership as follows:

1. Foster inclusive partnerships
2. Nurture power-sharing relationships through dialogue and reflection
3. Accept partnership as a process with uncertain outcomes
4. Engage in ethical partnerships
5. Enact partnership for transformation

The following section describes how DYOM was designed based on the seven principles of the CoI framework, weaving in the principles for good practice in partnership with students suggested by Matthews (2017).

**Principle 1: Design for open communication & trust**

While there was already a degree of trust among students and staff, we felt that it was important for both the facilitators and students to get to know one another through introduction, to set expectations and to share goals at the start of the module. To create a more effective communication, the team had a common understanding since the start that the site in Microsoft Teams would be used as a mode of communication.

**Principle 2: Design for systematic inquiry, discourse & critical reflection**

Vaughan, Cleveland-Innes, & Garrison (2013) points to strategies such as introductory needs assessment survey and blog activities by students to create course online activity. In the DYOM, students used Telegram chat to solicit needs, while the facilitators guided the discussions by sharing prompt questions as follows:

a. Learning outcomes: What do students want to learn at the end of the course?
b. Assessment tasks: How will students know if they have achieved what they want to learn?
c. Learning activities: What learning activities might be designed to achieve the learning outcomes and enable assessment?

The students formulated the learning outcomes, assessment tasks and learning activities; suggesting that students were able to design their module.

**Principle 3: Create and sustain sense of community**

The module facilitators and the students discussed and agreed upon the number of synchronous sessions. These synchronous sessions were designed more frequently at the start of the module to ensure clarity about the learning outcomes, learning activities and assessment tasks among the students. Afterwards, the synchronous sessions were arranged more sparsely, but at regular checkpoints to balance between providing independence and ensuring progress.
**Principle 4: Support purposeful inquiry**

According to Cleveland-Innes & Wilton (2018), inquiry-based learning refers to active intellectual processing during learning as opposed to passive acceptance and memorisation of presented information. In the DYOM, learning activities were designed to stimulate students to inquire purposefully. For example, there would be a presenter and an inquirer in any presentation, where the inquirer was to actively engage the presenter in discussion by asking questions, giving comments and sharing views.

**Principle 5: Ensure students sustain collaboration**

According to Vaughan, Cleveland-Innes, & Garrison (2013), ‘ensure students sustain collaboration’ can be achieved by promoting self-direction using team-charter and learning contracts. In the DYOM, the module facilitators guided the students to create agreement about deliverables and deadlines, after which each student was requested to verbalise their agreement (or disagreement, if any). Requiring such verbalisation from each student was intentional as it conveyed a verbal commitment from every student.

**Principle 6: Ensure that inquiry moves to resolution**

Referring to Vaughan, Cleveland-Innes, & Garrison (2013, p 73) ‘to ensure that participants move through the inquiry phases and that they do so in a timely manner’, the module facilitators prompted the students with guiding questions instead of using direct instructions to formulate the following activities at the start of the module:

- Established weekly plan for the whole module with timeline, milestones and deadlines for assessment tasks (ATs).
- Crafted rubrics for the various assessments.
- Guided students to use didactic questions, hence training them in formulating problems, finding solutions and negotiating options.

We believe that such activities helped students to enhance their metacognitive awareness and action. According to Vaughan, Cleveland-Innes, & Garrison (2013, p.74), ‘the likelihood of moving through the inquiry stages will be greatly enhanced when participants have this metacognitive awareness and are encouraged to assume responsibility for developing, monitoring and managing abilities’.

**Principle 7: Ensure assessment is congruent with intended learning outcomes**

To foster an inclusive partnership, the facilitators guided the students in designing the module using the Backward Design framework (Wiggins and McTighe,1998), starting from formulating intended learning outcomes (ILOs) to designing the assessment tasks (ATs) as well as the teaching and learning activities (TLAs). The students and the facilitators deliberated on the drafts on ILOs, ATs and TLAs as well as the deadlines for TAs. A triad approach on TAs was adopted, consisting self-assessment, peer-assessment and teacher
assessment to help students developing their own metacognitive skills and strategies.

Discussion/conclusion

A survey was administered to the students at the end of the semester. Based on the findings from the survey, the following themes emerged:

1. Increased student engagement/motivation

   The students felt empowered having the opportunity to work as a team to formulate learning objectives, learning activities and drafting assessment tasks for a module that they were genuinely interested in. They felt more motivated to carry out those assignments as they were part of the team co-creating the module.

2. Increased understanding of others’ experience

   The students remarked that the experience of co-creating the module together with staff enabled them to better understand the insights of how academic teachers design and develop modules. Some commented that teaching is ‘not as easy as it seems’.

3. Enhanced student-student partnership

   The collaboration among the students in co-creating the module has helped them build trust and fostered closer relationship among themselves.

   These three themes from the survey have been listed as part of the positive outcomes of partnership for students based on a systematic literature review conducted by Mercer-Mapstone, et al. (2017).

   While the findings from this survey are preliminary, we suggest that a systematic inquiry on such an online DYOM underpinned by the CoI framework could be conducted in order to investigate the value of co-creating such modules.

Take home message

Based on this pilot project, we believe that the design of the online DYOM underpinned by the CoI framework has helped students to actualise the values distilled from the SaP framework. Aside from actualising the values of SaP, there is evidence that students take the ownership of their learning when such an online module is designed using the CoI framework.
References


Andrew Kenah and Catherine Nash. PRACTICE PAPER: Do weekly AIM newsletters motivate learners to engage and stay engaged in the course?

Outline

This presentation outlines the practice of sending/publishing a weekly “AIM” newsletter tailored to online first year undergraduate economics students. Our AIM newsletter has been an essential teaching tool in our delivery of economics over the last 10 years. AIM is delivered in accordance with motivational learning theory.

AIM stands for Academic content, Information for the course and Motivation; three critical elements required to meet the challenges of effective online course faciliation. The font, format, and style of AIM provide nudges for our learners. In our presentation we will look at the reasons for AIM, the perceived benefits and costs of AIM, the theory underpinning AIM, how AIM is delivered, whether AIM could be used in other disciplines, and early results from our research.

Introduction

“Do weekly AIM newsletters motivate learners to engage and stay engaged in the course?” Our presentation outlines our practice of publishing a weekly AIM newsletter to first year degree level economic students through the platform of iQualify in accordance with motivational learning theory. It builds on previous research by Nash (2014) “Take AIM and keep your students engaged” which outlined the benefits of AIM to students, lecturers, facilitators and learners. Formal and informal feedback on AIM was positive, and we have now undertaken a formal student survey questionnaire. Our survey is based on John Kheller’s ARCS Model of Motivational Design Theories (1987).

AIM is an acronym in which “A” stands for “Academic content”, “I” stands for “Information for the course” and “M” for “Motivation”; three critical elements required to meet the challenges of effective online course facilitation. AIM was created to meet increased workloads via online teaching at scale, increased student questions regarding generic course information, a desire to provide links between economic theory taught and the current economic environment, the increasing requirements for meeting education performance indicators.

AIM is Bold; it is an innovative way of conversing with Learners and keeps the course contemporary. AIM is Fast; there is a template from the previous trimester that can be easily updated and adapted. AIM is True; it is built on motivational theory and behavioural economic theory. AIM provides learners with up-to-date information on the latest articles, concepts, and ideas from different media. AIM is Smart; it was and is a different way of helping our learners succeed. We need to connect with our learners regularly, we need to motivate and nudge them so that they can succeed. AIM is Together; it is an excellent way to deliver economics and has led to greater collaboration with OP colleagues while also increasing learner involvement throughout our courses.

Our research focuses on pedagogical research and embraces the AKO principles to inform teaching practices in disciplines of economics, management and statistics. The links between research and the curriculum are clear, adequate,
and effective - unless students are motivated and engaged in their studies, they are unlikely to succeed. AIM newsletter is not a “nudge”; however, the layout, font, content approach and use of pictures are nudges. Nudges are now commonly used within business and government organisations. Nudges may provide the solution to increased engagement and successful completion rates for learners in distance education.

In our presentation we will look at the reasons for AIM, the underpinning theory of AIM, what AIM is, how you could use in other disciplines, early feedback from the questionnaire.

The practice under scrutiny

Keller’s ARCS Model of Motivational Design Theories (1987), identifies four elements for promoting and sustaining motivation in the learning process: Attention (A), Relevance (R), Confidence (C), and Satisfaction (S). Table 1 below breaks down the four elements into subcategories designed to promote and sustain motivation of the learners. Based on Keller’s ARCS model, lecturers and course designers can create even more engaging online activities and resources aimed at promoting and sustaining motivation of the learners throughout the duration of the online course.

For example, Perceptual arousal (A1), learner’s attention can be generated by either surprise, doubt or disbelief. In economics, learners became more motivated and engaged if they believe an economic concept or theory has a practical application in real life. For example, the opening of Waitomo petrol station in Upper Hutt May 2019 saw competitors’ petrol prices drop by 20 cent a litre. This is a real-life example that learners can directly linked to the economic theory of the firm, and the economic concepts of price competition and oligopolies. Current and relevant economic podcasts, blogs, YouTube tips and articles are included within AIM newsletter. This has enabled course material to stay current and relevant to students in a rapidly changing economic environment.

Table 1 ARCS Categories

<table>
<thead>
<tr>
<th>Attention</th>
<th>Relevance</th>
<th>Confidence</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Perceptual arousal</td>
<td>R1 Goal orientation</td>
<td>C1 Learning requirements</td>
<td>S1 Intrinsic reinforcement</td>
</tr>
<tr>
<td>A2 Inquiry arousal</td>
<td>R2 Motive matching</td>
<td>C2 Success opportunities</td>
<td>S2 Extrinsic rewards</td>
</tr>
<tr>
<td>A3 Variability</td>
<td>R3 Familiarity</td>
<td>C3 Personal control</td>
<td>S3 Equity</td>
</tr>
</tbody>
</table>

Keller’s Instructional Material Motivational Survey (IMMS)

Keller’s IMMS has been designed to measure reactions to self-directed instructional teaching material, like our weekly AIM newsletter. Keller’s IMMS consists of 36 statements for learners to answer and are measured using a Likert scale.
AIM Weekly Newsletter Instructional Material Motivational Survey

Keller’s original IMMS has been tailored to meet our own online teaching mode. Using Survey Monkey Our AIM IMMS consists of 34 statements and one open ended question taking participants approximately 5 minutes to complete.

Trimesters 1, 2 and 3 of 2020 cohorts of first year economic learners were selected for this survey. Trimester 3 2020 is currently still open for learners to undertake the survey. Once this closes all three cohorts of students will be analysed and reported upon.

Discussion/conclusion

While formal and informal feedback about our weekly AIM newsletters has been positive from colleagues, we are interested in what motivation and “value add” students obtain from AIM and has this motivated them to stay engaged in the course. The results from our analysis will allow us to better tailor, in accordance with motivational learning theory and motivational design, our weekly AIM newsletters to our learners and our teaching practices.

AIM was designed for teaching undergraduate first year economics; however, we consider it is scale able and may be readily adopted to management and statistics undergraduate papers. E.g. The formatting of the template and content regarding “Information for the course” can easily be adapted to other courses. The “Academic content” which includes relevant links, podcasts would need to be updated by a Subject Matter Expert. The personal voice of the course leader which
includes relevant motivational material may take time and we consider will motivate learners to engage in their studies and stay engaged.

Once all data has been analysed our findings we hope to publish a journal article.

**Take home message**

There has never been any doubt about the importance of learner motivation, but there have been difficulties obtaining methods and approaches for systematically predicating and influencing motivation (Keller, 2000). The academic purpose and benefit of undertaking a student questionnaire is that it will help us evaluate how successful our weekly AIM newsletters are as a motivational tool for learners. It will allow us to better tailor, in accordance with motivational learning theory and motivational design, our weekly AIM newsletter to our learners. For example, is the layout easy to follow or is there any additional information learners need from us we do not currently cover in our weekly AIM newsletters? Could there be additional motivational tools employed for our learners? Our finding will be shared with our colleagues and published for other academics facilitating in the flexible online teaching environment.

**References**


Keller, J. (2008, January 18). *First principles of motivation to learn and e3-learing*. Retrieved from Distance Education: https://doi.org/10.1080/01587910802154970


Outline

In spite of the increasing number of researches carried out on the use of digital technologies (DTs) in teaching and learning, there seems to be a paucity of research on the use of DTs in the pedagogical practices of English as a second language (ESL) teachers. This phenomenological study explored the use of DTs in primary ESL classes of two schools in the Maldives. Data for this study was based on lesson observations, lesson plans, semi-structured interviews, mini-surveys, and school documents. Findings indicate that DTs such as YouTube videos and PowerPoint (PPT) presentations enhanced the use of set inductions in the ESL lessons. Thus, this study may be of great importance to teacher education institutions and pre-service and in-service teachers because it offers insights into the technological pedagogical practices of primary ESL teachers in the Maldives.

Introduction

Having spent more than two decades in the teaching field, I have always been interested in innovative pedagogies. I started my career as a primary teacher. I also worked as a middle school teacher and then a secondary English teacher before I became a teacher educator. My interests in teaching and learning with digital technologies (DTs) began when I was working as a lecturer of a TESOL programme and a member of Smart Learning Research Group (SLRG) at a college in the Maldives.

The Republic of Maldives is an archipelago of approximately 1190 coral islands scattered on the equator in the Indian Ocean. Being one of the most dispersed countries in the world, the islands are divided into twenty atolls (clusters of islands) for administrative purposes. The total resident population of the Maldives according to the 2014 Census is 402,071 and 38% of the population resides in Male’, the capital of the Maldives (National Bureau of Statistics, Maldives, 2015) even though it has a total land area of less than 2 square kilometres (Asian Development Bank, 2015). The geographical distribution of the Maldivian islands has proven to be an inherent constraint to providing infrastructural facilities and services to the schools in remote islands with small populations.

In spite of this, the Maldives has had a long history of education which began with a focus on religious education, literacy and numeracy. At present, English is one of the most important languages spoken in the Maldives. Despite Dhivehi being the national and official language of the Maldives as well as the first language of the Maldivians, English has had a strong influence in the lives of Maldivians in the past few decades. English is considered as a second language in the Maldives due to its prominence in different aspects of the everyday life of Maldivians.
Digital technologies (DTs) have created new opportunities for English as a second language (ESL) teachers in these remote islands of the Maldives to explore ways to carry out interesting and engaging lessons for students. While many studies have been conducted on the use of DTs in teaching and learning (Jack & Higgins, 2018; Muslem, Yusuf, & Juliana, 2018) especially because online learning had to be adopted due to Covide-19 pandemic (Adnan & Anwar, 2020), there are limited studies on the use of DTs in ESL contexts (Aziz, 2017; Bostancıoğlu & Handley, 2018; Shakeeb, 2020). Also, most of the studies on educational technologies focus on teacher knowledge and perception rather than pedagogical practices. In addition, these studies usually include data collected through self-reporting instruments such as questionnaires and interviews (Jack & Higgins, 2018). Therefore, the current study aimed to explore Maldivian primary teachers’ use of DTs in their pedagogical practices in ESL classes based on lesson observations.

The problem being addressed

Learning a second language can be daunting for many ESL learners unless a desirable learning situation is created for them (Restaino, 2011). Set induction has great potential to engage students in the lesson to achieve the desired learning goals. Studies conducted as early as the 60s to 80s have found that set induction can be a powerful stimulant to improve student achievement and knowledge retention in science education (Schuck, 1969a, 1969b, 1970, 1981, 1982,). However, very few researchers (Aubertine, 1968; Oman, 2002; Perrott, 1982; Schuck, 1985) have explored set induction in teaching and learning since the notion was devised in 1964 by Horace Edward Aubertine.

In more recent studies, ‘anticipatory sets’ were used interchangeably with ‘instructional sets’ in the context of technology education (Oman, 2002), history education (Wilson, 2006) and information literacy (West & Deutsch, 2017). However, there is a paucity of research that has explored the role of digital technologies to enhance the use of instructional sets. Even though set induction can be pivotal to gain attention and set the scene for ESL learners, it is an under-researched area in the ESL context. Dr John Medina, a molecular biologist, states among his ‘brain rules’ that the best way to gain students' attention and to help them remember content is by using visuals such as pictures, illustrations, photographs, tables and charts (Medina, 2011). Digital technologies can open many avenues for teachers to use visually stimulating set inductions such as videos and animated slides which can further enhance learning in the ESL classrooms. Therefore, the digitally-enhanced pedagogical strategies found in the present study could be beneficial to ESL teachers and instructional designers.

Study design/Approach

Based on the ontological orientation of constructionism and the epistemological foundations of interpretivism, it follows that my study is qualitative research. A phenomenological approach was suitable for my study as it aimed to explore practices of primary teachers and capture their ‘lived experiences’ of using
DTs in ESL lessons. It also meant I could record thick descriptions of how primary teachers used DTs in their classroom context, using a variety of sources. This study to explore how DTs were used in the set inductions of primary ESL lesson in the Maldives was guided by the following questions.

1. Which type of instructional sets did the Maldivian primary teachers use in their ESL lessons?
2. How were DTs used to facilitate the induction of instructional sets in primary ESL lessons?
3. How did the induced sets prepare ESL students to maximise learning in the tasks that followed the set induction?

As this is a part of my PhD study, ethical approval was gained from the University of Waikato prior to conducting this research. The participants of this study were 4 teachers from an urban school located in the capital city, Male’, and 5 teachers from a rural school in one of the atolls. Two schools were chosen as there are differences in the availability of ESL resources and ICT infrastructure between urban and rural schools. Data were collected weekly from observation of ESL lessons of the participating teachers for about 4 months at each school. The lesson plans of the teachers for the same duration were also analysed to examine how teachers planned the use of DTs in their lessons. In addition, semi-structured interviews were conducted with teachers and mini-surveys for both teachers and students. Data from 98 lesson observations, 305 lesson plans, semi-structured interviews and mini-surveys were analysed using NVivo 12 pro, a qualitative data analysis software.

Findings

Data from lesson observation suggest that primary teachers used digital technologies (DTs) in the set inductions in their ESL lessons. The most commonly observed set inductions used visual content such as pictures displayed on a smart board, 65” TV screen, or using a projector that served as ‘lesson hooks’ to draw student’s attention on what was to be learned and to gain their interest. The following lesson observation notes show how two teachers used DTs to induce attention sets in their English classes. Fazla used a Smart Notebook (a software tool used to complement the smart board) to show a picture to gain the attention of students in her writing lesson for grade 5 (age 10-11) students in the urban school:

Fazla showed a picture of a haunted house on the smart notebook. She asked students to call out adjectives that they can use to describe the picture. Students from different corners of the classroom called out adjectives that they think can be associated with the picture of the haunted house. Students were later required to do a descriptive writing on a different picture. (LOU29)

When asked where in the lesson they use DTs most frequently and for what purpose, all the participant teachers said that they used DTs most frequently at the beginning of the lesson to gain students’ attention:

...at the beginning because we need to hook them, we need to gain their attention. (Zeek, SSIR)
I prefer [use of DTs] mostly in the introduction...and to wind up and to start it’s because it helps to get the attention of the kids. (Leena, SSIU)

Instructional sets used to transit smoothly from already covered content (known information) to new content (unknown information) were also enhanced with the use of DTs such as 2-3 minute YouTube videos and PPT (PowerPoint) presentations. Transition sets provided teachers with opportunity to engage students in instructional conversations to gain an understanding of their students’ prior knowledge. The following lesson observation notes track such uses. Zeek, for example, used a PPT to show some pictures to her 3rd graders (age 8-9) to generate a discussion about cause and effect relationships before assigning them a pair work task related to it:

It was in the middle of the lesson that Zeek asked her students to watch the pictures on the PPT. She asked them how each pair of pictures were related to each other. At times she provided prompts in the form of sentence beginnings to elicit examples of the cause and effect relationship of the pictures. (LOR25)

Some instructional sets included the use of graphic organizers such as Venn diagrams and mind maps. The use of graphic organizers as a part of set inductions enabled teachers to provide students with a framework for learning, and necessary background information related to the content to be learnt. The following observation notes show how DTs were used in the set induction in the form of graphic representations in both Nuha and Fazla’s writing lessons. Nuha, for example, used a Venn diagram to give background information on autobiographies to her 6th graders (age 11-12):

Nuha’s writing lesson was on ‘autobiographies’. After recalling the lesson on biographies, she displayed a Venn diagram on the smart board to show her students the similarities and differences between biographies and autobiographies. Students were later asked to write an autobiography. (LOU34)

The graphic organizer used in Fazla’s set induction was a mind map on biography to guide students to plan their writing:

After greeting her 5th graders (age 10-11), Fazla checked whether students brought printed information and pictures from home related to the biography they were going to write. Then, she opened a PPT and showed students a slide with a mind map about biographies. She asked students to use the mind map as a guide when planning their biography writing. (LOU25)

Hana’s response to teachers’ mini-survey confirms the importance given to the visual illustration of complex concepts:

Smart boards help the teachers to teach some topics which require a visual illustration for the students to understand the concept. (Hana, MTU2)
It was also found that the primary teachers did not seem to have a clear understanding of the term ‘set induction’. The term ‘instructional sets’ was not mentioned in the interviews by any participating teacher even though it was found in the lesson plan template used by Key Stage 2 teachers in the rural school. ‘Set induction’ was used interchangeably with ‘lesson introduction’ as found in the following excerpt from a lesson plan. Hence, the activities written in the introductory phase to begin the lesson were generic and did not focus on any specific learning task that followed those activities.

<table>
<thead>
<tr>
<th>METHODOLOGY / TEACHING PROCEDURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time/min</td>
</tr>
<tr>
<td>5 MINS</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Interestingly, the term ‘hooking’ was found in the lesson plan template used in grade 1 of the rural school. Hooking was found to be a phase prior to introduction of the lesson. The definition of hooking given in the lesson plans show that hooking was limited to lesson beginnings. Therefore, hooking was too narrow to be used as set induction.

Hooking  *Opening to get students focused & interested in lesson*

Time: 1 min

Show them a picture of red riding hood story

Introduction “I do” - *Teacher direct instructions*

Time: 2 min

Give them some more pictures and let them talk about it.

Even though observations of both rural and urban English lessons show that DTs were used by the primary teachers quite frequently, usually there were no discussions around the use of DTs in the subject coordination meetings. Teachers mentioned in the interview that they just share the links to YouTube videos and PPTs with the parallel teacher along with the lesson plans and do not usually discuss in the meetings about how digital technologies would be used in the lessons. Reem and Hana’s comments show the use of DTs are not discussed in the coordination meetings:

Not actually about that how to use [DTs], but how a teacher carries out the lesson is discussed. A teacher may suggest to use a video in a lesson. That's how it is discussed. (Reem, SSIR)

Hehe, most of the time we don't [discuss about how to use DTs], but if we find something interesting, then we share it among all of us (Hana, SSIU)

Data from lesson observations and lesson plans show the use of DTs to enhance set inductions. DTs such as YouTube videos, pictures, and PPTs were
used in the set induction to gain students interest, to check student’s prior knowledge, or to provide background information related to the lesson to be taught. Even though using instruction sets in ESL lessons seem to be an important aspect of pedagogical practices of primary teachers in the Maldives, they do not seem to be using it deliberately in their lessons. The use of DTs at the beginning of the lesson seems to be for the purpose of lesson hooks rather than as 'instructional sets'.

Discussion and conclusion

Findings of the current study contribute to the understanding of the importance of set inductions in facilitating ESL students to be in the right mind-set to participate actively in the task ahead (Aubertine, 1968; Schuck, 1981, Schuck, 1982). The findings also confirm that the use of DTs enhanced teaching and learning in the ESL context (Aziz, 2017; Bostancıoğlu & Handley, 2018; Shakeeb, 2020, and more specifically the use of set inductions to maximise learning in primary ESL classes.

All the participating teachers believed that DTs such as YouTube videos, PowerPoint presentations, and still images were powerful tools to gain the students’ attention and therefore, they used DTs most frequently at the beginning of the lessons. This concurs with findings of Medina (2011) highlighted in the literature that the best way to learn and remember is through visuals rather than spoken or written words.

However, displaying a still image or showing a YouTube video alone does not make the set induction an effective one. The effectiveness of set inductions depends on how meaningful this initial instructional act is for the students. How the teacher is able to connect the video with what is to be learned through oral questions or a discussion can make all the difference. A lack of discussion in the subject coordination meetings about the use of DTs could be a reason for the teachers not being able to make set inductions more meaningful for student engagement in learning.

The finding that teachers only used DTs to gain attention and not for facilitating students’ engagement in the tasks that followed indicates that there is a gap in their knowledge in relation to the purpose of using set inductions. They seem to be unaware of the potential of set inductions in the smooth transition from old information to new information, to tap students’ prior knowledge, or to provide a frame of reference for the task to be done. They may also be unaware of set induction as a pedagogical practice. To be effective in facilitation learning, set inductions need to be deliberately designed and incorporated as an instructional strategy (Aubertine, 1968; Schuck, 1970).

In conclusion, considering the prestigious status given to English language in the Maldives, especially as the language of instruction in the schools, it is vital to explore and adopt pedagogical practices that can facilitate learning ESL. Based on the study findings, the following recommendations are made:

- Initial teacher education (ITE) and school-based professional learning and development (PLD) programmes need to train and encourage the use of instructional sets as an important pedagogical practice.
• School Management should facilitate and support the use of a variety of digital technologies to maximise student engagement in learning.
• Teachers need to explore and experiment with different ways in which instructional sets can be used to increase student participation in the activities planned.

Limitations

There are several limitations of this study. First, the research context of this study was limited to only two schools in the Maldives. So, the findings are not necessarily generalizable to other contexts. However, the rich descriptions of pedagogical practices provided in this research make it possible for teachers in similar contexts to judge to what extent the findings resonate with their own practices. Second, the study is based on the pedagogical practices of primary teachers who may not be specialized in teaching ESL. A study with teachers who are specialized in teaching ESL could lead to different results. Nevertheless, it must also be remembered that primary teachers in the Maldives usually teach many subjects with English language being one of them.

Further research

The existing research on the use of instructional sets as a pedagogical practice in the ESL lessons is limited and this study could be a starting point for future research in other related areas. The current study explored how ESL teachers used digital technologies to facilitate the use of set inductions in the lessons. Further research needs to be conducted to evaluate the effectiveness of digitally-enhanced instructional sets in increasing student engagement in the task that follows. As teachers in the present study used instructional sets intuitively rather than intentionally, it may be worthwhile exploring how professional learning and development can assist teachers in planning and implementing instructional sets more effectively to maximise student learning. Given that many schools have adopted online teaching and learning with the Covid19 pandemic, it will be interesting to study the ways in which online platforms can be used to facilitate the use of set inductions in both synchronous and asynchronous lessons.

References


Maggie Hartnett and Peter Rawlins. REFERENCED PAPER: Unbundling university support for students: Providing external online, on-demand learning support services.

Outline

In 2018, Massey University trialled a commercial, online, on-demand learning support platform. The primary reasoning for introducing this platform was to provide students with out of hours access to study assistance through an easy to use online service. This learning support service was to complement the in-house services provided to students through the university (e.g. library service, consultation with learning and/or writing advisor, assignment pre-reading service, Massey Online Writing and Learning Link (OWLL)). Coincident with this trial, the authors were commissioned to investigate learners’ perceptions of the existing in-house learning support services and the recently introduced online on-demand platform.

The study, reported here, adopted a mixed method design which comprised of two phases: an online survey towards the end of the semester, and a series of follow-up interviews. Overall results indicate that use of the online on-demand platform was low with the majority of students unaware of its existence. For those who did use the platform, students found it somewhat useful and somewhat easy to use. This is in contrast to students' awareness and use of in-house learning support services currently offered by the university. While the trend towards unbundling key university services, via the use of new digital technologies, is occurring worldwide (most notably in the United States), these results indicate that simply providing the opportunity is not sufficient. Students need to understand what is being provided, how it differs from in-house services, and the benefits to them if this mixed model of learner support is to be successful.

Introduction

The ways in which universities undertake their core roles is changing. Around the world, unbundling, “the process of disaggregating educational provision into its component parts, very often with external actors” (Czemiewicz, 2018, p. 12), is occurring apace. Re bundling is also occurring, where the component parts are reaggregated often into new components and models. New and flexible technologies are enabling these unbundling/rebundling processes to take place. Aspects of core university systems, roles and services are being outsourced to private companies, including enrolment, learner support, credentialing and academic work, to a variety of providers often located in different countries (McCowan, 2018; Oblinger, 2012). There are two main drivers for the phenomenon of unbundling: financial and pedagogical. Increasing costs is the most evident driver given it is occurring at a time when government funding for public education is on the decline (McCowan, 2017). Private providers promise cost reduction for expensive and resource intensive services such as learning
support (Czerniewicz, 2018). While some universities look to completely unbundle and outsource a wide range of services, this is not always the case.

Massey University, the research context for this study, is the primary distance university within New Zealand, in addition to operating campuses across three main locations. Having both distance and on-campus students means that providing sufficient learning support services, at times that suit learners, can be challenging. To address this challenge, Massey University adopted a mixed model of provision for learner support where in-house support was complemented by the introduction of an external online and on-demand platform (i.e. Studiosity) for out-of-business hours learners’ needs. Prior to the introduction of the online platform, if students needed to access an in-house learning support person, they were required to do this during general office hours. With the introduction of Studiosity, students had the means to access one-to-one support outside of office hours (e.g. evenings and weekends).

**The problem being addressed**

What was known from the university’s perspective was the services that the online on-demand learning support platform could provide; what was not known was how students would engage with a flexible model of providing learning support. This research project was designed to answer the question “what are learners’ perceptions of existing, in-house learning support services and the introduced external, online, on-demand learning support platform (Studiosity)?”

**Study design/Approach**

To investigate the perceptions of learners with regard to the learning support services being offered, an explanatory sequential mixed method study design was adopted (Creswell & Plano Clark, 2011). The design comprised two phases: an online survey of all students in a variety of on-campus and distance offerings for seven first year courses across multiple disciplines where Studiosity was being trialed; and 15 individual, semi-structured interviews of a purposive sample of students in the chosen courses. These two phases were both conducted near the end of semester one 2018. Ethics approval was obtained prior to the commencement of the study.

**Phase 1: Survey**

Towards the end of semester one 2018, an online survey, incorporating a range of demographic questions as well as several additional questions, was administered. The additional questions related to students’ use of Studiosity and Massey’s in-house learning support services. Students who did not use Studiosity were asked for reasons why this was the case. Students who indicated they had used Studiosity were then asked what prompted their use as well as their perceptions about its usefulness and ease of use. To measure usefulness and ease of use perceptions, two constructs from the Technology Acceptance Model (TAM)—namely perceived usefulness (PU—the belief that using the technology in question will benefit a person’s performance) and perceived ease of use (PEU—the belief that using the technology will be straightforward and effortless) (Davis, 1989)—were adopted. Since its development, the TAM model has been used extensively to determine individuals’ attitudes towards adopting various
technologies (Selim, 2003). The researchers used the PU and PEU scales from Selim (2003) who investigated university students’ acceptance of course websites for learning. Both the PU and PEU scales comprised six statements. All statements were retained for this study with only slight changes to the wording of each statement to refer to Studiosity as the technology under consideration. Participants were asked to respond to these statements using a Likert scale ranging from 1 strongly disagree to 7 strongly agree.

Students were also asked what other in-house learning support services they had used during the semester. The survey was opened two weeks prior to the end of scheduled lectures and remained open until the final day of semester lectures. Students were asked to indicate whether they were prepared to be interviewed in phase 2 of the project. A draw for a $300 Prezzy card was offered as a thank you for those who completed the survey. In total, 305 participants responded to the survey (representing a 14% response rate of the 2,105 students enrolled in the selected courses) and, after cleaning and removal of invalid responses, 252 responses (12% response rate) were retained as the data set. The time taken to complete the survey was estimated at between 5 to 10 minutes.

Phase 2: Interviews

At the completion of semester one courses, semi-structured individual interviews were conducted with 15 students who had indicated a willingness to be interviewed in phase 2 of the project. In selecting participants to be interviewed, the researchers aimed to include a range of students and took into consideration use of the platform, the age of students, as well as their ethnicity, whether it was their first year of study or not, internal and distance students, and the range of disciplines involved in the trial.

Interview questions focused on what learner support services participants were aware of and had used, including Studiosity, and how accessible and helpful they had found that support. Interviews occurred mainly through Skype, Zoom or via telephone, with three students being interviewed in-person. The average length of the interviews was 17.5 minutes.

Findings

An examination of the survey data reveals that the majority of respondents were under 24, female, Pākehā, and enrolled in their first year of study. Of note, the proportion of Māori and Pacific respondents was roughly representative of the proportion of these student groups at Massey University (i.e. 9% Māori and 4% Pacific).

Studiosity use

As part of the survey, respondents were asked whether they had used Studiosity or not during semester one. Of the 252 participants who answered, only 7% said that they used the service. Of those who did not use Studiosity, the following reasons were given (see Figure 1):
Reasons given in the survey by students in the other category included: feeling overwhelmed by the amount of technological tools to learn ("it was another thing online to look at and learn how to use and I felt overwhelmed with unfamiliar online tools"); not having enough time ("I was too busy to look at it"); and lack of availability of tutors ("I attempted to, but every time I logged in there were zero mathematics tutors online. We were promised it would be available every night, and given the hours, but I did not find this to be the case in practice.")

In terms of the 18 students in the survey that reported using Studiosity, the reasons given for prompting their use are shown in Figure 2. Due to the low number of responses to this question, it is difficult to observe patterns in terms of first year, gender, ethnicity, offering location, programme, and age.
Perceptions of Studiosity

Respondents who used Studiosity were asked to respond to each of the perceived usefulness and perceived ease of use statements on a Likert scale. Means for perceived usefulness (5.07) and perceived ease of use (5.36) suggest that respondents found Studiosity somewhat useful and somewhat easy to use (see Figures 3 and 4). No statistically significant differences were observed between perceived usefulness or perceived ease of use in relation to gender, location, mode of study, ethnicity, programme, and age. These results need to be treated with caution due to the low sample size.

As found with the survey data, most students interviewed were either unaware of Studiosity or were aware of it but had not used it. Typical comments included: “No, to be honest I don’t even know what that is”, “It sounds vaguely familiar, but I don’t know anything about it to be honest”, and “I heard about the [Studiosity] one, but I didn’t actually use it”. For students who were aware of Studiosity but had not used it, reasons included lack of time, not having a need, and a lack of awareness as to what it offered: “I also didn’t really know what to use it for, so when I needed something it was never the first thing to pop into my head, even though I knew it was there”.

Only one of the fifteen students interviewed had used the online platform. Three other interviewees reported in the survey that they had used it, but it was unclear from the interviews whether or not they actually had: “There was no information about it and I am not even sure if it was [Studiosity]”. The student with experience rated their Studiosity experience very highly: “I did get in there and have a look around, and I found it really, user friendly and very helpful actually”.

Figure 2: Reasons given for using the Studiosity

*Respondents could tick multiple options
Awareness and use of support services

The survey results indicate that students were generally aware of the in-house learning support services that Massey offers. An examination of the interview data largely reinforces these results but show that a range of levels of awareness existed amongst those interviewed. While some participants were well-informed regarding the services available to students, others were largely unaware.
Results from this study indicate the use of Studiosity was low with the majority of students surveyed unaware of its existence. For those who used Studiosity, they found it somewhat useful and somewhat easy to use. These findings suggest that the usability of the platform was not at issue. In contrast, awareness of the existence of the platform was the major reason that accounted for the low use for its lack of use.

Discussion and conclusion

Overall, findings indicate that learners involved in this study were generally aware and satisfied with the existing in-house learning support provisions but were generally unaware of the existence of Studiosity. As such, it is not known whether Studiosity was needed or was meeting the specific needs of learners.

Given the self-selecting, non-randomised nature of the survey, in addition to the low response rate, results of this study need to be treated with caution. Notwithstanding, the simplistic view that unbundling traditional university services, via the introduction of new technological services and models, will inherently provide positive outcomes is not supported by these findings nor other research in the field (Czerniewicz, 2018; McCowan, 2017). Simply providing another online tool and expecting uptake does not guarantee its use or success (Selwyn, 2014). The implications from this research are that students need to understand what is being provided, how it is relevant to their learning and how to easily access the services. As such, this research questions the unbundling of higher education services, via the introduction of new digital technologies, that it is assumed will lead to enhanced opportunities for learners.

References


research in times of change, Capetown, South Africa.


Outline

The topic of increasing tertiary education costs and student debt is a global concern. In addition tuition is only one component of educational costs with living and learning resource costs adding to this. The rising costs of textbooks in countries like the USA and Britain has been of particular note in adding to this burden. One way of mitigating these pressures is Open Textbooks (OT). However adoption of OT’s and Open Educational Resources (OER’s) is still low. This paper explores tertiary students perspectives on the cost of textbooks, their familiarity with OT’s and OER, particularly the impact this has on students’ learning behaviour, including choice of programme and/or institution, and how students access and use course materials.

Introduction and background

The cost of textbooks has been increasingly noted as an issue for students in postsecondary education globally (Martin et. al, 2017, Rolfe and Pitt, 2018). Research from the USA has noted US college students spend an average of $600 USD per year on textbooks (Hill, 2015) and in the UK, a study of science students from 2 universities found that 88% of students had not bought required textbooks due to costs (Rolfe, 2017). Given how integral textbooks are in many courses and academic programmes, this is a concerning phenomenon. But how does this issue affect Aotearoa New Zealand students? In 2017, one local study explored the possible effects that textbook costs may be having on study behaviours of students at a New Zealand tertiary institutions. They noted that students do seek alternative resources and other ways to access textbooks when cost is considered a factor. This emphasised the importance of acknowledging the changing way students were accessing and using course materials. (Stein, Hart, Keaney, & White, 2017).

In an endeavour to investigate these issues further, the national Centre for Open Education Practice (COEP) has expanded on this study through a research project exploring students’ views and experiences of the cost of, and access to open textbooks in post-secondary education in New Zealand. Open textbooks are licensed under an open copyright license, and made available online to be freely. This paper discusses some of the key findings from this research particularly the impact this has on students’ learning behaviour, including choice of programme and/or institution, and how students access and use course materials. Situating these findings in the global context of open education textbooks (Hilton, 2016), we look at the role of open textbooks in supporting access to equitable and quality learning resources in Aotearoa New Zealand.
One of the main reasons open textbooks are advocated as an important development in post secondary education is to help reduce costs for students. However other benefits are also noted namely:

- To enhance learning opportunities through provision of a range of resources (ie not just one textbook)
- Increase equity of access by providing access to resources in contexts where textbooks are not available
- Enhance pedagogy through opportunities eg including students as co-authors
- Adapt and remix the textbook to suit their needs eg tailor the books to their own particular course context.

(Rolfe and Pitt, 2018, Jhangiani, 2014, Ozdemir & Hendricks 2017)

Research Design

The project was set up as an open, community-based project and ethics approval was obtained through Otago Polytech. Drawing on their networks, the Centre for Open Education Practice (COEP) invited tertiary education institutions, staff, and students to in promoting this survey with New Zealand post-secondary learners. The UNESCO OER Chair sent information about the project to all ITP and Wānanga CEO’s, the VC/DVC’s and librarians of all Universities and COEP individual members. Posters, social media messages and emails were set out with links to the survey. The research collaborators contacted students unions at 69 post secondary institutions.

In total 1152 participants, who were currently studying or had previously studied at a New Zealand tertiary education institution, responded to the survey. The majority (n=727, 63.38%) were between 19 to 24 years of age and a significant portion were English speakers (n=981, 85.53%). When analysed by ethnic groups, up to 80.03% (n=918) are Europeans, followed by Māori (n=109, 9.50%) and Asian (n=321, 27.99%).

Even though a majority of respondents came from universities (90.52%, n=974), there was still a number of students who came from polytechnic institution, institute of technology and Wānanga. In terms of field of study, one third studied Science (33.46%, n=360), with others mainly studying Engineering, Health Sciences and Commerce/Business. 28.90% selected “others” in terms of their subjects, such as occupational therapy, horticulture, midwifery, nursing and Māori language. Not all the respondents studied fully on campus, with 4.00% of them in distance and 18.40% study with a mix of on campus and distance study.

Findings

The majority of the respondents (n=861) were required to buy or rent textbooks in the physical form rather than in a digital form. Out of the 1152 participants, up to 1049 reported that the textbooks are mandated for their coursework (Figure 1).
Figure 1. Whether students are required to arrange textbooks

Approximately one third of the participants (29%) spent a maximum of $250 per year to purchase textbooks; one fourth (24%) spend $251 to $500 annually. A smaller number of participants 15% spend more than $500 a year (Figure 2). In contrast, 287 respondents (25%) reported zero cost on textbooks.

Figure 2. Annual cost of textbooks

The total cost of textbooks of the participants ranged from $195 to $394. If the respondents who are not required to buy textbooks are excluded, the average cost ranges from $243 to $490 per annum (Figure 3).
Figure 3. The annual cost of textbooks by subject

Familiarity and use of ‘Open Educational Resources’ (OER) and ‘Open textbooks’ (OT)

Overall students are not familiar with OER (70%) or OT (59%) (Figure 4).
Figure 4. Familiarity of the term Open Textbooks (OT) and the number of courses using them

Respondents have a better familiarity with OT’s than OER since certain courses require students to use open textbooks. Figure 4 provides a breakdown to show the number of courses using open textbooks for 20% of the participants (n=225). 103 respondents used OT in one course, 53 in two courses, and the remaining in more than three courses.

The impact of the cost of textbooks

Earlier studies had assumed that the cost of textbooks was hindering students’ course selection (Jhangiani & Jhangiani, 2017) Although this assumption is not strongly supported statistically, students were still affected by the cost of textbooks.

Table 2. The impact of the cost of textbooks on academic performance

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Options</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinder course-selection</td>
<td>Always</td>
<td>29</td>
<td>2.59%</td>
</tr>
<tr>
<td></td>
<td>Most of the time</td>
<td>41</td>
<td>3.66%</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>209</td>
<td>18.68%</td>
</tr>
<tr>
<td></td>
<td>Rarely</td>
<td>263</td>
<td>23.50%</td>
</tr>
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<td></td>
<td>Never</td>
<td>539</td>
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</tr>
<tr>
<td></td>
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<td>38</td>
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<table>
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<th>Cause the against or drop of courses</th>
<th>Options</th>
<th>Count</th>
<th>Percent</th>
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</thead>
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<tr>
<td></td>
<td>Yes</td>
<td>62</td>
<td>5.54%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1017</td>
<td>90.88%</td>
</tr>
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<td></td>
<td>NA</td>
<td>40</td>
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</table>

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<th>Options</th>
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<tr>
<td></td>
<td>Definitely yes</td>
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<td>10.48%</td>
</tr>
<tr>
<td></td>
<td>Probably yes</td>
<td>353</td>
<td>32.44%</td>
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<tr>
<td></td>
<td>Probably no</td>
<td>338</td>
<td>31.07%</td>
</tr>
<tr>
<td></td>
<td>Definitely no</td>
<td>118</td>
<td>10.85%</td>
</tr>
<tr>
<td></td>
<td>Don't know or no answer</td>
<td>165</td>
<td>15.17%</td>
</tr>
</tbody>
</table>

Table 1 highlights that almost half of the participants (48%) indicated textbook “never” hindered their course selection while 90% indicated textbooks had not caused them to drop a course. However at least 20 students expressed their choice of course was influenced by the cost of textbook. For example, one student
commented, “...4 required books each costing approx. $200 used too much of my study link costs so I did not take the paper as I couldn't afford that with my own money”. Similarly, another student had to drop his/her preferred course of study because “The textbook ($250) was mandatory for the open book mid-term”.

Additionally, at least 12 students reported choosing courses for which there were no required textbooks, especially when the courses were elective ones. For instance, one student stated that s/he would check “what textbooks are required” when taking elective courses. If “heaps of textbooks were required”, s/he would simply give up that course. Two other students reported “postponing the course” and “juggling some papers” to be able to manage costs of textbooks. Lastly, this sentiment was foregrounded in 10 responses with students reporting not being able to “justify the cost of textbooks”, as they wouldn't have much use for it “later in my life”.

While the majority of students may have not altered their course choice, it was acknowledged that the lack of textbooks brought significant negative effects on respondents’ academic performance, with 10.48% (n=114) reported “definitely yes” and up to 32.44% (353) indicated “probably yes” on the negative effects.

Lack of access to textbooks also affected the well-being of students and their motivation to learn. Students reported increased levels of stress and anxiety. One student reported, “I will get less motivated to study if the textbooks is hard to get.” Another student noted the significant distress without access to textbooks, “I experienced severe anxiety and stress trying to complete the required reading on time before lectures and tutorials. When I was unable to complete the reading in time for lectures and especially tutorials, labs and tests throughout the duration of the course and hindered my ability to participate and contribute to discussions and complete lab work as well as I should’ve been able to”. Another student indicated the hard choices that had to made in order to afford the textbook “Before I learnt how to download them, I would go without food to be able to afford them so my education didn't suffer. I worked extra hours instead of studying and really stressed that I couldn't get the materials I needed to learn”.

Universities are aware that not all students will have personal access to textbooks and library copies are seen as an equitable option for students unable to purchase their own textbooks. However a particularly concerning comment by a student demonstrated how lack of personal ownership affects flexibility of learning “I was forced to withdraw from a course due to time constraints from library access ... although the library had copies available, I found … zero copies available to borrow/ take home on loan.”

The final aspect regarding impact of textbooks on students concerns academic performance. Approximately 40% of the respondents reported that the lack of textbooks have either definitely or probably had a negative impact on their academic performance. This was further highlighted in the text box where students were asked to leave a comment regarding the question. Out of 231 responses to the open ended question, 90 participants specified that their grade on assignments and exams were negatively affected. For instance, two students reported failing, “I had a final [assessment] mainly based off the required text. I had not purchased the text and subsequently failed”. Often times questions on tests and/or assignments are based on textbooks. As a result, many respondents expressed they were missing out on vital information. One response highlighting difficulties
without the textbook, “It's not financially viable to buy a compulsory textbook for all of my courses, and yet some lecturers make their course much more difficult if you don’t have access to it. For example, they will set assignments with questions such as ‘Answer questions 8a-d from this section of the textbook here,’ so students that don’t have a copy will miss out on marks”.

Access to textbooks

The survey also asked participants to indicate their behaviours regarding access to required textbooks on two aspects: (1) purchasing textbooks new copies, second hand, or electronic copies and (2) alternative options that do not involve buying the textbook.

The purchase of textbooks: new, second-hand and electronic copies

Figure 5. The purchase of textbooks

The responses in figure 5 are indicators of participant behaviors in relation to buying textbooks. Findings reveal that over 250 respondents always or most of the time buy new textbooks. In the comment section, participants expressed their preference of owning a physical copy of the textbook as it allows them a range of advantages. For example, one student reported, “I prefer to have my own copy that I can use wherever and whenever”. Many (30 out of 170) expressed similar reasons, of owning a copy being the “convenient” option of studying at their time and place. A few others mentioned the physical copy support their learning style, either for comprehension, as one noted “I need a physical copy to be able to actually take in information” or to “highlight and make notes”.

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Figure 6. Alternative access to textbooks

Participants were asked to indicate the alternative ways they accessed textbooks respondents. The most commonly occurring behaviour was to use resources by their lectures, such as the learning materials in the institution’s Learning Management System (e.g. Moodle). More than half of the respondents “always” indicated this strategy (28.31%, n=308) or did it “most of the time” (34.38%, n=374).

The next most common strategy to get access to free learning materials was to use alternative resources online, such as online encyclopedias (e.g. Wikipedia), Massive Open Online Course providers (e.g. Khan Academy, Coursera) and open textbook websites (e.g. Textbook Revolution, Open Textbook Library). Respondents also use websites that are not designed for pedagogical purposes, such as YouTube and Google. 21.51% of respondents (n=234) indicate that they “always” did this followed by 28.68% (n=312) who did it “most of the time” and 27.94% (n=304) did it “sometimes”. Only a very limited number of participants responded that they rarely or never rely on alternative online resources.

Furthermore, some participants (n = 400) expressed the availability of “PDFs online for free if you look hard enough” through file-sharing websites. There were participants who recognized this behaviour was illegal, as noted in one response, “Obtain(ed) a not strictly-legal copy...”. Another response stated, “why spend hundreds when you can simply torrent free of charge?”.

While a portion of students expressed their preference of renting or borrowing books from the library to save costs (10.48% “always”, 19.30% “most of the time” and 26.56% “sometimes”), there are a significant number of participants (n=176) who find the library to be an inflexible option. It was interesting to find affective and logistical issues experienced by students in accessing library resources. For example, some students reported that they “don’t like the library” and find it “depressing” to study there and “prefer the comfort of their homes”. Others have said they “don’t know how to use the library” or “borrowing from the library is too
A large number of comments (55/175) from students were focused on logistical concerns, such as “short loan time” and “limited number of copies for a class strength”. One of the responses in the comment section reflects the troubles experienced, “Due to the lack of copies the required textbooks get put on for 3 hours loan at EPS which means I can not use them for late night study and it is difficult to get study groups all smushed into EPS for that set time. It's just inconvenient and limited”

Another group of students, albeit small (n=10), reported being unfamiliar with the process of borrowing books from the library. For instance, one student noted, “I don’t really know how to use the library and it seems like an unnecessary stressor to me”. Another participant reflected that the library doesn’t present itself as an option because “highlighting and annotating notes” are not possible.

Borrowing or copying a friend’s textbook was also a common occurrence, which was employed by approximately half of the participants.

For some students the lack of access resulted in serious pedagogical issues. As one student indicated “Maths is one of my weak subjects and I am currently studying it. I don’t have my own copies due to the cost and my living bills. My lecturer keeps telling me to get one but I cannot really afford it at this stage. So I borrow my friends’ textbooks in class. It works. However, I have recently been sick and not having the textbook. It has slowed my process in catching up.”

The above comment highlights important concerns regarding lack of access to textbooks. It is not just about grades on tests and assignments, but also the impact lack of access to textbooks has on students’ learning and understanding of content. Around 63 participants commented that lack of access to textbooks have either limited their comprehension of learning material or that they were struggling to keep up with lectures and discussions in the classroom. One student noted being “hopelessly lost all semester” as they chose to not buy the textbook due to cost.

Two students with learning disabilities indicated they felt disadvantaged without an accessible textbook, which limited their ability to learn effectively. Still others reported they found the required textbook to be ineffective when learning specific content, as noted by this respondent, “To be limited of textbooks can impact learning of topics. An example would be of anatomy where a Netter's textbook of his drawings may contribute significantly to studying neuroanatomy as the structures of the brain can be difficult to visualise.”

On one hand, participants were particularly affected when lecturers specifically required answers from prescribed content and were given lower grades if answers didn’t match, as expressed by one student, “I didn't have a nursing textbook, and the answers to a work sheet were directly out of the required text.... even though my answers were technically correct, they were marked wrong as they were not word for word correct”. On the other hand, students purchased textbooks, but found that some lecturers didn’t use them, a respondent stated, “[I] often don't buy the textbooks that are 'required' for my courses because in my experience we never really use them...."
Discussion and Conclusion

This data has shown that overall textbooks are still required by courses and academics. In most cases the cost of this does not appear to have a negative impact on the majority of students learning. However there is a small group of students for whom this does impact and the consequences have a serious impact on their stress and wellbeing, for example going without food, dropping courses because of cost, or falling behind in studies. This raises the question of the role of textbooks in terms of equity and access to learning. Traditional solutions such library access are not sufficiently flexible for students. Students need to have easy and personal access to learning materials when and where they need them.

There is a general lack of awareness about OER and open textbooks (although that could be either because lectures aren't aware and don't use or recommend OERs or because students are possibly using OERs without knowing that is what they are. Although there are a group of students who can and prefer to own their own textbook (new or second hand) the majority rely on other resources provided by lecturers or free online resources. So it may be that students are not indicating that cost is not an issue because most of them just aren't buying the textbooks that are required. This is critical to note as it is likely that assumptions are being made that when a textbook is prescribed, students are using it.

However it also appeared that for students the cost of textbooks wasn't only financial and had ramifications for their anxiety and thus wellbeing. Students also weighed up the cost and benefit of textbooks in terms of relevance, support for learning, and understanding of content.

Overall this study foregrounds how institutions are still relying on textbooks as a learning resource but students are not. Its raises questions about whether one textbook really is the way to go when there are many other ways of representing and explaining curriculum and suggests that it might be time to revisit our assumptions about the value of textbooks as a 21st century pedagogy. Open textbooks could certainly address a number of the issues raised in this study including equity of access (financial costs, inclusivity), relevance of content, contextually relevant content amongst other things.

References


Linda Laven, Kim Baxter, and Kate Hill. PRACTICE PAPER: Embedding digital information literacy into contact workshops: Authentic, case-based research tasks informing cross-discipline case discussion.

Outline

The Masters of Veterinary Medicine is a 120 credit, online programme, comprising four or five taught courses (15 credit), and a research report (45/60 credits). Each course incorporates a contact workshop (face-to-face and/or online) of ~3 days. Research shows support resources are crucial for enhancing information literacy in postgraduate students (Eldermire et al., 2019; Stagg & Kimmins, 2014). Initially, science librarians (SciLib) were integrated into the MVM through EndNote support forums (Laven et al., 2018), but real-time integration of SciLib has now been introduced at contact workshops.

Prior to these workshops, each subject lecturer develops a case-based research task and relevant clinical research questions that are sent to the SciLib so they can prepare search strategies. Students complete a digital information literacy quiz, and collated responses are forwarded to the SciLib. This enables the subsequent tutorial to be customised to the needs of the individuals attending. During the workshop, the SciLib deliver a short tutorial on digital literacy before moving on to look at the research tasks set for the case. Students research the clinical questions, while librarians provide personalised support to students both in the room and online.

Following these subject-specific library sessions, all classes combine for an interactive discussion session (also streamed) which showcases how library research can affect decision making in case management. This practice has resulted in students starting research report courses equipped with enhanced skills related to sourcing and reviewing literature.

Introduction

The Master of Veterinary Medicine programme (MVM) is a distance programme which offers postgraduate courses in a range of clinical disciplines to both domestic and international veterinarians. Each taught course has a contact workshop of approximately three days. Workshops provide an opportunity for face-to-face teaching, or for students unable to attend in person, the option to attend real-time streamed sessions online.

Support resources are crucial for enhancing information literacy in postgraduate students (Eldermire et al., 2019; Stagg & Kimmins, 2014). Having brought the team of science librarians into the online learning environment of each course offered - via digital learning objects and EndNote support forum (Laven et al., 2018), the MVM team felt the next step was to introduce face-to-face library sessions at the contact workshops. Working within Massey University’s learning and teaching framework Paerangi, the goals for the integrated library sessions were:
• To raise the profile and approachability of the library staff, facilitating relationship building, and connectedness between students and staff across disciplines (Smith et al., 2014).

• Use a targeted approach to establish and meet the information literacy needs of individual students within a class learning activity.

• Use authentic case-based research tasks to enhance information literacy skills from an early stage of the programme developing students well equipped to complete their research reports in the future.

• To have students work collaboratively to identify literature relevant to the case provided, and subsequently provide an opportunity for the application and sharing of the found knowledge in an integrated case-based session.

• To establish MVM students as members of the wider University community as well as the MVM whānau.

Workshops for companion animal courses are run simultaneously in the same week allowing students and staff to come together for crossover sessions. To create an integrated experience, delivered across the workshop days, library sessions were planned in consultation with course lecturers, the science librarians, and MVM academics.

Practice under scrutiny.

In advance of workshop delivery, a real-world case-based research task was developed with each subject lecturer. Aimed not just at their cohort but designed to incorporate some overlap with the other classes scheduled to run at the same time e.g. Emergency medicine, Oncology, and Soft tissue surgery. Pertinent case information was collated and three short research questions developed for each case. This information was then passed to the science librarians so that they could do some preparatory database searching, and plan for the face-to-face sessions.

Meanwhile, students were polled with respect to their skill levels and information literacy needs using a quiz on their Stream (Moodle) class website. The quiz asked them to rate their confidence to completing tasks such as keyword and advanced database searches, refining the results of searches, exporting and organising citations in reference management software (Baxter et al., 2016). Additionally, the quiz asked them to set a personal focus for the library session. Quiz responses were collated for the science librarians to allow them to develop and deliver a tutorial tailored specifically to the needs of the individuals attending the class. The aim being to meet every student at their current skill level and move them on.

Face-to-face library sessions for each class began with a short, tailored tutorial by the science librarians moving on to look the research tasks set for the case. The class was encouraged to collaborate to locate and collate the required information. The class lecturer or an academic from the MVM team also attended the session to provide discipline context. Sessions were simultaneously streamed for online attendees. Once the class was on task the librarians were able to “float” providing individual personalised support to students both in the room and online.

The face-to-face library session for each individual class fed forward into a combined interactive discussion session, which covered all the cases researched.
With the MVM Director (KH) acting as ‘Master of ceremonies’, and collegial input from class lecturers, these combined sessions used interactive software e.g. Top Hat (tophat.com) to engage students, and draw out their learning from the library sessions. Showcasing how the library research impacted on the choices made for clinical case management.

**Discussion/conclusion**

Because MVM courses can be completed in any order it was important that the research questions set for each case provided a range of challenge for class. Questions needed to engage students with varying clinical and information literacy skill levels. In this way we hoped to engage and motivate both new and experienced students with the research tasks at a level commensurate with their experience and skill level (de Brabander & Martens, 2014). Our aim was for individuals to feel they had had an opportunity to polish an existing skill or develop a new one during the library session. This is especially important as individuals can experience multiple contact workshops during their study with in the MVM programme, and also drives the need to provide new cases for each combined offering. This personalised outcome was further supported by the library skills quiz.

The presence of the lecturer or academic alongside the science librarians at the face-to-face library session provided veterinary context, and allowed the librarians to confidently demonstrate their expertise in database searching, results refining, and reference management in a team teaching environment. In turn the science librarians attended the integrated case base session to get a feel for how the researched information was used.

Top Hat was used in the integrated case-based session to allow the students to respond anonymously to questions posed about each case. The questions were set by the MVM academics to maximise participation by students in the different courses running. Starting with low stakes questions everyone could answer they built to more specific content knowledge based on the current literature. These latter questions were aimed at the cohort who had researched the case – delivering research led teaching. The MC facilitated discussion and pulled the individual course lecturers into the case discussion. To wrap up each lecturer reviewed the outcome of their case reflecting on the case management and what they had learnt. In this way they modelled reflective, evidence-based practice to the combined classes.

The sessions were fun and helped develop the collegiality between students, course lecturers, and internal staff. Overtime, course lecturers have become very engaged providing new cases to challenge the attending students, showcase their discipline and spark interdisciplinary discussion.

Since the introduction of this practice it has been noted by the MVM/Library team that students arrive in their research report courses better equipped to source and review the literature. In addition, individuals seem more comfortable to seek one-on-one consultations with science librarians to support their study.
Take home message

A multidisciplinary approach successfully used authentic real-world cases to engage students and allow just in time individualised support for information literacy skills from the science librarian team.

Relationships built with the library team can be tapped into virtually during the rest of a student’s study journey with the MVM programme.

Students were effectively encouraged to access and use the wider University resources available to support their learning, and are better equipped to complete their research reports in a timely fashion.

The MVM whānau was enhanced: Students collaborated and engaged, the MVM and science librarian teams were actively involved, and the class lecturers performed a mentoring role. Modelling their passion for reflective, evidence-based, lifelong learning in the veterinary profession.

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Lynnette Brice. PRACTICE PAPER: Closing the Distance with an Open Smile – Emotions and Affect in Open Distance and Flexible Learning

Outline

This practice paper is concerned with how educators in Open, Distance and Flexible learning can understand, account for, and influence learners’ emotional experiences in ways that enhance their learning. In the provision of ODFL, educators need to be especially mindful of the influence of emotions and affect in learning because we cannot read the faces of our learners, we cannot sense their mood or read their body language, and we cannot manage or even know the physical environment within which they learn. We also need to consider the emotional effects of the principles of “Open, Distance, Flexible” in learners’ experiences, particularly for those who are re-engaging in education after a long period or studying on-line for the first time. This practice paper offers insights into these important issues.

Practice under scrutiny – Understanding, accounting for, and influencing learners’ emotional experiences in Open Distance and Flexible Learning

Learners arrive at their devices with a complex range of emotions. Very often fear or anxiety are at the forefront. These emotions might relate to past experiences in education carried forward into their current enrolment, especially if a learner has predominantly negative associations with education.

Learners don’t, however, enrol in on-line education because of fear or anxiety. The motivating emotions behind enrolment are hope, excitement, and very often pride. Learners want something from their participation in ODFL, they hope for change, some form of transformation, and they are excited about what this might mean for themselves and their families - a career change, new skills and knowledge, or new ways of thinking and being. They are proud in making that commitment to themselves and others. For educators, being able to understand, account for, and influence these complex and often contradictory emotions and their affect may have critical impact on learners’ ability to engage and succeed in ODFL.

Discussion

Essentially, ODFL is broadly characterised by its learner centeredness, its points of difference from conventional delivery methods and as such, should, in theory, appeal to those who have not experienced success through such traditional compulsory forms of education. According to Clow (1999) learners choose ODFL because conflicting demands prohibit their attendance in face to face learning, but it may also be possible that those same demands, or negative experiences in engaging in ODFL, prohibit their engagement and retention in ODFL. Descriptions and definitions of ODFL are likely to continue to be refined
over time and whether the elements of openness, distance and flexibility can be
described as principles is yet uncertain, but these elements deserve examination
for their emotional associations, and their affect.

These terms “OPEN DISTANCE and FLEXIBLE” all have emotional
associations. The term “Open” relates to the accessibility of the programme of
education; any learner can enrol, and it might be assumed there are no restrictions
on eligibility. “Open” suggests a pathway can be found for any learner regardless
of experience, skills or qualification. Further, “Open” has both denotative and
connotative meaning when applied to learning. Denotative meaning describes the
literal accessibility and ease of access to the learning, while the connotative
meaning suggests a freedom associated with learning that is in contrast with the
rule bound nature of the traditional ‘compulsory’ education environment. Thus, the
“Openness” of ODFL removes and eliminates barriers to education that may be
physical, economic, and/or psychological and emotional. “Open” is welcoming
and accepting.

The term “Distance” has other emotional associations. Distance implies a
physical separation between the learner and the institute that delivers the
education. The programme of education can be available from a distance, and a
learner may have no physical experience of the institute that delivers it. This
distance allows the learner to access the education in their own place and time of
choosing, allowing greater autonomy and control. Distance education generally,
but not always, involves technology as a critical element and may or may not
include social interaction with tutors or peers. This distance, however, offers a way
to hide. Learners are anonymous and can disappear quickly and easily if the going
gets tough. “Distance” also carries an emotional connotation of coldness,
remoteness, loneliness.

The term “Flexible” relates to the time and place the education can be
accessed from, the learning pace, the choice of courses and programmes offered
and the modes of delivery. Flexibility in time and place (Li, 2002; Kearsley, 1998)
are seen to be a major advantage of ODFL for second chance learners who
balance other commitments. This flexibility offers a “sense of control” (Petracehi,
2000) but presupposes control in other material aspects such as a comfortable
space to study in and access to new technologies The flexible element of the
learning relates to meeting the needs of the learner and mitigating constraints to
learning. But how flexible is it really? And how well prepared are learners for this
flexibility? The emotions associated with flexibility are those of being in control,
having agency.

ODFL brings together contradictory emotional expectations for learners:
freedom, loneliness, and a sense of control. Which of these will be most influential
will depend upon the experiences of the learner within that environment and their
emotional state on entry:

“I am a 35-year-old single mum of three, my youngest being 10 months. I
work full time in a government department and have never done study, let
alone online distance learning, and it definitely terrifies me. I am very hard on
myself, and not the best academically.” (Tania)

Where a learner like Tania approaches their studies with fear and anxiety,
these emotions are triggered by uncertainty about the learning environment and
doubts about their own ability to learn in that way. These negative emotions can
very quickly turn to frustration and anger if their initial engagement with on-line learning doesn’t go well and these learners quickly withdraw from participation, having had their fears confirmed and their doubts about their own abilities reinforced.

As on-line educators it’s useful to understand the power of emotions and especially “affect” as a force for change. Think of emotions as “e-motion” and we can see the movement that is inherent in its meaning. Emotions are the body’s response to lived experiences —they are inner prompts, ‘nudges’ that serve us in powerful ways—moving us to action, stirring us, drawing our attention to events that are meaningful. In learning, this stirring can be either motivational as the result of positive emotions or inhibiting as the result of negative emotions.

Affect is different, this is relational, it is the energy that arises in interactions with each other— to affect and to be affected is the essence of our interactions but these interfaces are not limited to human exchanges only—our environment, culture, and political milieu all participate in affect—and in the case of on-line learning, the learning platform and course materials are equal players with learners and tutors in the creation of this energy.

In face to face teaching and learning emotion and affect are intuitively enacted, teachers create warmth and trust through the ways in which they manage the classroom environment and their personal interactions with learners. Greeting incoming learners with a smile is a way to affect their experience of learning. Leveraging their excitement and hope through humour and spontaneity are other affective strategies. Creating a bright and welcoming environment with interesting artefacts and visual stimulation also affect learner experience in positive and motivational ways.

It is easy to recognise positive affect in action – we feel good when our learners have success, we share that with others, and they feel good. It’s equally easy to recognise negative affect in action—our learners vanish, and we feel bad. Our challenge is to put the smile into the on-line experience. Being aware of the emotional impact of all our interactions helps us do this – in practice we do this by explicitly addressing learners’ emotional needs in every aspect of what we do, ask “Where is the smile?” in every aspect of ODFL: in our policies and vision statements, in our professional standards and staff appraisal processes, in our on-line interactions, in the tone and style of learning materials in consciously setting an emotional climate (Salmon, 2013). We do this by privileging feeling language over thinking, asking “how do you feel?” We do this in the way we enable relationships across distance, tuakana/teina and tauira/Kaiako. We do this through “just in time” support mechanisms.

Conclusion

Being mindful of the influence of emotions and affect in learning, and of the emotions associated with the elements of ODFL allows us to practice ways to mobilize positive affect to enhance learner experience, so that learners feel connected, competent and confident in their learning. While we cannot know the emotions of our on-line learners easily, we do have an understanding that they are managing multiple complexities in their lives and that they come before their screens with fear, anxiety, hope, excitement, and pride. Leveraging positive
emotions and minimising the possible effect of negative emotions will enhance their experiences in ODFL.

References:


Isabelle Lys. PRACTICE PAPER: Development of virtual Aboriginal & Torres Strait garden tour and interactive map for online learning in Health & Biomedical Sciences.

Outline
This paper aims to discuss the development of a virtual Aboriginal and Torres Strait Islander garden and plants video and online interactive map in Brisbane as an online teaching resource in collaboration with local community and students. The online interactive map will contain information regarding the plant names and the use for the plants in Aboriginal and Torres Strait Islander health and culture. This online interactive map is the first of its kind for Aboriginal and Torres Strait Islander heritage trail in Australia to be hosted as part of an Australian university’s website. This online interactive heritage walking trail will be designed by staff and students to showcase Aboriginal and Torres Strait Islander knowings in fields of plant science and sustainability. This online resource can widen participation outcomes and deeply embed Aboriginal and Torres Strait Islander perspectives into our university curriculum as well as preserve and promote Indigenous knowings to both a national and international audience.

Introduction
Aboriginal and Torres Strait Islander heritage trails are becoming a phenomenon in Australia (Muecke & Eadie, 2020) as these walking trails can translate intergenerational knowledge, culture and experiential learning for everyone (Muecke & Eadie, 2020). There are examples of Aboriginal and Torres Strait Islander walking trails based at four different universities such as RMIT University ("RMIT Keelbundoo scarred trees and heritage trail," 2020), Murdoch University ("Murdoch University: Ngoolak, Poolgala and Koorloo Walk Trail," 2020), Monash University ("Monash University: Aboriginal Trail," 2020) and University of Newcastle ("University of Newcastle: Birabahn Cultural Trail," 2020) in Australia. None of these walking trails feature an online flexible interactive map, and only have downloadable and printable pamphlets with information linked to each of these individual trails. The National Botanical Garden in Canberra also has an Aboriginal and Torres Strait heritage trail with additional online information regarding the use of each individual plant as identified along the walk in addition to printable pamphlet ("Australian National Botanical Gardens," 2020). There is a need for virtual tours of gardens and online maps similar to that utilized by national botanical gardens in Victoria ("Royal Botanical Gardens Victoria," 2020) so as to make natural resources easier to access and for everyone’s enjoyment. There is currently an online interactive walking map of Aboriginal and Torres Strait Islander plants in Australia at the University of Sydney which was created using WordPress software developed by their own staff and students ("Turning campus grounds into botanical learning and teaching spaces," 2020), but this is not hosted directly on the University of Sydney’s website.

This paper aims to discuss the development of the first online virtual tour and interactive online map using available Aboriginal & Torres Strait Islander plant video and photo resources from an Aboriginal and Torres Strait Islander garden.
that is based at an Australian university in Brisbane, Queensland. This paper will also describe how university students, staff and the local community all worked together to collaborate, consult, design and develop the learning resources for the online Aboriginal and Torres Strait Islander Walking Trail interactive map of the university garden with the common goal working towards making the preservation and promotion of Aboriginal and Torres Strait Islander knowings in health and medical information from native plants available to everyone online.

**The practice under scrutiny**

Photos and videos of an Aboriginal and Torres Strait Islander garden on a Brisbane university campus were sourced from a previously funded grant. These were organised into a virtual tour by the University’s Learning and Teaching staff. Students enrolled in all Health Sciences courses within that university’s campus were invited to participate in contributing to, and developing the plant medical and health information alongside consultation with local Aboriginal and Torres Strait Islander community. Students were compensated for their participation in the project in the form of total consultation hours as part of a study unit or course, or in the form of a gift voucher.

**Discussion/conclusion**

The project was expected to promote celebration of Aboriginal & Torres Strait Islander knowings in science and sustainability that can be shared nationally and globally via an online virtual tour and interactive garden hosted on the university website. This proposed Aboriginal & Torres Strait Islander heritage walk and garden project enables collaborative university staff and student engagement to create a culturally appropriate, relevant, safe and inclusive learning and teaching environment within the university for Aboriginal and Torres Strait Islander students. Outcomes from this online resource can be used for community engagement projects with both schools and the wider community. This online flexible resource can also be used in the teaching of nutrition, sustainability, health and biomedical science disciplines at university and also globally by everyone.

The key outcomes of the project included the development of:

- Virtual video of Aboriginal & Torres Strait Islander heritage walking trail on Brisbane university campus,
- Interactive Aboriginal & Torres Strait Islander heritage walking trail with popup and identified individual plant names and position in the garden along the trail

Implications for further practice include:

- Development of other virtual videos of Aboriginal & Torres Strait Islander heritage walking trails on other university campuses,
- Creating links from university website to local and national botanical gardens and Aboriginal and Torres Strait Islander resource websites.
Take home message

Universities can give back to the communities, form collaborative practices that benefit both students and local communities and preserve Indigenous knowings for the future of plant use in health sciences. With COVID19, physically attending gardens or gathering information about plants have been challenging. Creation of online garden tours and interactive maps can assist in ensuring learning content is flexible, easily accessible and consistent to everyone.

References


Josiah Koh. PRACTICE PAPER: The Role of Non-Verbal Communication (NVC) in asynchronous online learning.

Outline

Because non-verbal communication (NVC) cues such as body language and paralanguage are not visibly present in asynchronous text-based online learning, this study seeks to find out if eNVC is correlated with social/teaching presence and digital literacy in an asynchronous online learning environment? And if the aforementioned presences are correlated with students' motivation, level of engagement, and overall perception of the online learning experience.

Introduction

Non-verbal communication (NVC) is primarily defined as a transmission of information to the intended recipient beyond that of spoken words (Juslin & Scherer, 2005). While body language and paralanguage play a huge part, they do not encompass all forms of NVC. In the absence of body language and paralanguage, NVC may be expressed in other factors. The goal of this study is to determine if the identified factors (social presence and teacher presence) give NVC cues and what impact these factors, together with digital familiarity, have on student motivation and engagement. Specific nonverbal cues that we are looking at are the teacher presence (such as response time, style & tone of response, genuineness) and social presence (such as the tone and response of the conversations of other students).

Nonverbal communication has already proven to exist in online learning platforms through research presented by Al Tawil (2019). This research will build from existing research and expand the findings of Al Tawil's research on nonverbal communication in online learning and the Lemay's Community of Inquiry (COI) model. The nonverbal factors of teacher and social presence have been identified in Al Tawil's study and in the Community of Inquiry (COI) model. By testing these factors (teacher/social presence/digital familiarity) through our study, we aim to gain insight into what impact NVC has on the student engagement and motivation in an asynchronous text-based learning environment within the New Zealand context.

The practice under scrutiny

For this research, a general quantitative survey method will be used due to its speed, efficiency and cost-effectiveness (Gürbüz, 2017). The survey is based on the CoI survey by Arnaugh et al. (2008) and adapted to include digital literacy questions based on the questions from Al Tawil. Students were asked to complete a 40-question survey, comprising 5 sections. The survey questions were presented in a 7 point Likert scale, and students could answer them based on how much they agreed with the statement.

In this study, 49 usable responses were included in the final analysis. The participants were local tertiary students who were attending the local national universities in Singapore. Students were invited to participate via a posting on the
student forum and word of mouth inviting them to participate in the survey. Due to the Covid-19 pandemic, all universities in Singapore had to move their delivery online and have generally used an asynchronous method of delivery due to the changing and fluid nature of the emergency.

Table 1: Table of Correlations of variables

<table>
<thead>
<tr>
<th></th>
<th>Motivation</th>
<th>Engagement</th>
<th>Overall Experience</th>
<th>NonVerbal Communication (NVC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Presence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.62</td>
<td>0.79</td>
<td>0.78</td>
<td>0.81</td>
</tr>
<tr>
<td>Sig (2 tailed)</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>N</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td>Social Presence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.5</td>
<td>0.42</td>
<td>0.11</td>
<td>0.61</td>
</tr>
<tr>
<td>Sig (2 tailed)</td>
<td>&lt;0.0001</td>
<td>0.003</td>
<td>0.46</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>N</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>Digital Literacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.46</td>
<td>0.35</td>
<td>0.29</td>
<td>0.49</td>
</tr>
<tr>
<td>Sig (2 tailed)</td>
<td>0.001</td>
<td>0.014</td>
<td>0.4</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>N</td>
<td>49</td>
<td>49</td>
<td>49</td>
<td>49</td>
</tr>
</tbody>
</table>

In Table 1, we can see that most of the variables are statistically significant. The variable of how social presence relates to the overall experience and how digital literacy relates to the overall experience as not significant (sig above 0.05). It seems that student's overall experience in learning online is not likely to be affected by social factors or by their familiarity with the technology.

Teaching presence has the greatest impact on the student motivation, engagement and overall experience. It tends to have more effect on the engagement rather than motivation, and the amount of effect it has on engagement and overall experience is both very high. It has the highest correlation close to 1 and has a significance level much less than 0.001. It is also most affected by eNVC, with a correlation of 0.81.

Social presence has a relatively moderation impact on motivation and engagement. It does not have a statistically significant correlation with the overall experience. The impact of social presence seems to be relatively equal, although the strength of correlation on motivation is slightly more than that of engagement. This seems to suggest that the overall experience for students are not so much
influenced by the peers and the peers’ interactions online, but more of the teaching presence.

Digital literacy also shows a relatively moderate to weak correlation with motivation and engagement. Whilst there seems to be some impact of the familiarity of the technology on the motivation and engagement, it does not have a statistically significant impact on the overall experience. Based on the correlation figures, digital literacy seems to impact motivation more than engagement.

eNVC, on the other hand, has a significant correlation with the teaching presence, social presence and digital literacy. NVC seems likely in this case, to influence the perceptions of the teaching presence, the interpretation of social presences and could affect the confidence of a student in their familiarity with the technology. It also seems to have the strongest impact on the teaching presence, as compared to digital literacy.

Discussion/conclusion

Our findings seem to indicate that NVC has the strongest correlation when it comes to how it influences the teaching presence in online education. It suggests that the impact of how students perceive NVC tends to be in the realm of being instructional. This could also be in line with the fact that online education tends to be associated more with a sense of isolation and attrition (Liu et al., 2007; Menchaca & Bekele, 2008).

eNVC and social presence has a moderate level of correlation. In an online study, students may not see their peers’ reactions until much later, and there is a certain disconnectedness between an online dialogue and a face-to-face dialogue. (Kemp and Grieve, 2014) On a social level, some studies have shown that most students prefer to have face-to-face interactions (Kemp and Grieve, 2014).

Comparatively, eNVC and digital literacy have a weaker correlation. Whilst the NVC impact on digital literacy is clearly present, especially if the student is a more technologically savvy participant, miscommunication due to misinterpreting NVC of fellow peers or teachers is unlikely to have an impact on the participant’s level of digital literacy or confidence.

The second part of the study sets out to find out why eNVC’s relationship to the teaching, social presences and digital literacy is important to start with. It is important as teaching presence, social presence and digital literacy have a relationship with the level of student motivation, engagement and overall experience.

Teaching presence is the variable that has the highest correlation with motivation, engagement and overall experience. The teaching presence ranks lowest on motivation in comparison to the other outcome variables. This suggests that teaching presence does not have as much an effect on motivation compared to the other variables. This result also seems to follow the same conclusion found in previous research (Cole et al., 2017). A high level of teaching presence does not necessarily equate to higher levels of motivation. This is in line with current literature (Zhang et al., 2016). That said, since online learning requires a basic level of self-regulation, the student’s own self-efficacy could explain the reason for the higher engagement (Winne, 2005). Previous research has indicated that teaching presence and self-efficacy were also found to be positively correlated.
(Shea and Bidjerano, 2010). Thus, the high degree of engagement that seems to arise from a high teacher’s presence could be due to an increased level of the student’s self-efficacy, thus resulting in a higher level of engagement.

Social presence and teaching presence have relatively similar scores. Both average around 4.36 and 4.94 in their mean score. This falls in line with existing literature as a high teaching presence is often correlated with a higher social presence (Zhang, 2020). That said, social presence seems to show a higher correlation with motivation than with engagement. This is different from teaching presence, which is the reverse. Social presence also has a very low correlation with how students perceive the overall experience. This could be because some students may perceive the social presence and participation in social activities as optional (Kehrwald, 2008). However, seeing their peers engaging in the social interactions and participating in social interactions actually has a higher motivating factor.

The digital literacy portions also show how technology and familiarity could possibly influence the way that students feel motivated and engaged. This could mean that students who are not technologically confident could lose out in an environment where learning has to be done online. It also suggests that students with lower access and exposure to technology could fare poorer. The level of digital literacy also does not seem to have a significant impact on the overall experience. This could be because digital literacy is an intrinsic cognitive function, and a lot of the digital familiarity could be affected by the difficulties in utilizing the online learning platforms. Students could also be relating their experience studying in an online environment with other factors other than their own technical confidence.

**Take home message**

Overall, this study helps us understand how eNVC affects the way students experience online learning. eNVC is significant in influencing the teaching presence, social presence and digital literacy of students. Among the three factors, eNVC has the strongest correlation with teaching presence, suggesting a strong impact. This could imply that teachers will have to be conscious of how they communicate online, as they also transmit NVC cues to students. As more and more learning moves online, more support is required to ensure that students have a good experience.

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Karen Ferreira-Meyers. POSTER: Does online equate to flexible?

Outline

This poster looks at flexible models in that it wants to answer the broad question whether online teaching and learning can be equated to flexible teaching and learning. In order to do so, the example of the Bachelor in Education (Primary and Secondary), major in French is analyzed. I examine whether the fully online delivery mode (due to the Covid19 pandemic) has been able to make the interactions between students, between students and content, and between students and lecturers more flexible.

A mixed method was used to discover how the programme was implemented and delivered on the Moodle LMS: on the one hand, a survey followed by a focus group discussion showed the students' opinions and reactions, and on the other, data analysis from Moodle (which activities worked, how did these incorporate the element of flexibility, etc.) complemented the findings. In conclusion, while online does not automatically equate to flexible, features of online delivery can lead to higher flexibility in a language learning programme.
Gilly Salmon. KEYNOTE: Four innovative pathways to futures for learning.

Outline

Learning, with and through technological enhancements, now operates in a landscape unrecognisable only months ago. Gilly Salmon sets off on journeys to the near and further futures... and what they have to offer us for online education. She offers suggestions for enhanced and direct pathways, and for those less travelled. Choose your own routes: steppingstones or huge jumps for you?

Professor Gilly Salmon PhD, PFHEA, NTF is founder and CEO of Education Alchemists Ltd - a company formed around her life's work including Carpe Diem learning design methodology, pedagogical transformation, online teaching, Education 4.0, technology enhanced learning, the 5 stage model and e-tivities.

Linked in: www.linkedin.com/in/gillysalmon/
Twitter: GILLYSALMON
YouTube: www.youtube.com/channel/UCEEJpq09mnv6BKCIkeLhHZQ
Himasha Gunasekara and Cheryl Brown.
POSTGRADUATE PAPER: Creativity in practice-Instagram as a divergent thinking tool in creative education.

Outline
This paper reflects on the potential of social media to enhance divergent thinking through exploring experiences of using Instagram for teaching and learning in fashion design in Sri Lanka. Given the increasing accessibility of Instagram and its potential for creative education, I analyzed the posts of 14 art teachers, designers, and design students to understand how learning occurred in an out of the classroom context.

Practicing divergent thinking is an essential component of creative education. Instagram supports that by creating a digital environment to share ideas in a visual-based platform which is more suitable for creativity development. Through analyzing the Instagram posts of the selected sample seven common themes were figured out as self-revealing/inner feelings, peer evaluations, teaching experiences, criticism, active participation, collaboration, and motivation. These common themes can be recognized as learning forms of creative education and the visibility of these learning forms in Instagram evident that there is a learning process happening in the digital environment of Instagram as informal learning.

Keywords: Instagram, Developing countries, creative education

Introduction
Mobile technology is highly popular across a range of age groups due to its affordability and easy access (Newhouse et al, 2006). The use of social media networks has increased considerably in emerging and developing economies between 2013-2018 (Poushter et al., 2018, p3) with the most frequent users being youth (Dunn, 2013).

Social Media platforms have obtained the attention of some educators due to their popularity and accessibility via smartphones (Aydin, 2012). For example, it has been noted that social media provides students with an opportunity to create, share, and comment on relevant content (Manca et al. 2016). A research carried out in the year 2012 based on an online academy of Irish music reveals the potential of developing music education in an informal setup using social media (Waldron, 2012).

Instagram, launched in 2010 is one example of a social media platform gaining popularity globally (Smith & Anderson, 2018). It enables a user to share self-generated multimedia content such as photos and videos (Abney et al., 2018). Its popularity is evidenced through its rapid growth which saw it achieve one million registered users in two months and 10 million within a year. Purnama (2018) states that Instagram increases students' motivation and participation in classroom activities. A study carried out among students at University Malaysia Terengganu in an ESL classroom using Instagram shows how the platform allowed students to
interact with their peers in teacher-led, video-related activities (Mansor et al., 2017). However, education is a process of facilitating learning or acquisition of knowledge, skills, values, beliefs, and habits which can happen in either formal or informal settings (Dewey, 1916). Therefore, Instagram has the potential to play a vital role in the informal learning environment. For example, learning can occur through observing other students, commenting on others' work, reading others' comments, experimenting on your own, and doing additional research such as hashtag searching and reposting. Instagram has released considerable amounts of updates or its new features during the last couple of years (Lee, 2019) and these include photo editing techniques, descriptive videos, cartoons, and multiple-choice questions and polls for Instagram posts. As Instagram has changed the way of the design industry (The Guardian, 2018) it also has the potential to impact informal learning in creative education where students can use their imaginations and critical thinking to create new meaningful forms of ideas.

With the boom of the creative economy, creative education took over a prominent place in education systems. The intention of establishing these design educational institutes was to educate and enhance the craft skills and creative marketing knowledge. In this new global creative economy the knowledge of creativity can not be passed down from generation to generation like the traditional production practices (Florida, 2002, p.318). It had to be fit into the global context to support large scale economies. In creative education the focus is to strengthen students' thinking in the design fields, equipping them with technical knowledge in relevant design categories such as fashion design, graphic design, interior design, jewelry design, furniture design, etc. The concept of "learning by doing" is a key concept in design education. Creative education whilst influenced by culture and social attitudes is focused on divergent thinking (Gunasekara, 2018). It is a process used to generate creative ideas by exploring possible solutions while having curiosity and taking risks. It is a nonlinear free-flowing process unique to an individual.

The problem being addressed

The key aim of the research is to explore how students develop creativity in informal learning through the use of Instagram. Instagram plays a significant role among students in sharing information. Therefore, this growing social media tool has a great potential to impact students' academic life. Especially in a field such as design education. There is a paucity of contemporary research on how Instagram has impacted individual creativity. In terms of flow, originality, and flexibility of creativity, there is a connection between creativity and social media (Gu et al, 2016). Chai and Fan (2016) describe the changing learning patterns of students and the influence of social media in the creative achievements of students in creative education. Creative ideas that emerge within an online community quickly spreads among members of the community (Peppler & Solomou, 2011). In the contemporary world, social media has become a powerful tool in education which uplift learning activities and upgrade professional development (Crossley et al., 2002) Especially, Instagram has become a widely chosen social media by youth. However, it is debatable if these tools are more productive than traditional learning tools (Crossley et al., 2002). An exploration of the role of Instagram in creative education can overturn the future teaching-learning process of creative education.
Hence, this research will benefit both students and teachers by more flexible and affordable quality creative education.

**Study design/Approach**

The novel shift into Web 2.0 and the increasing popularity of social media have created a new opportunity for digital ethnography. In this approach, the ethnographer keeps engaging and collaborating in social media discussions to keep him/her up to date on everyday social media life.

Big Data values the qualitative research and small sample sizes (Boyd and Crawford, 2012). Hence the researcher observed a total of 700 posts and stories including their visual and textual content. The purposive sample population is 14. The sample population was randomly selected from the researcher’s Instagram profile followers including 3 art-teachers, 6 designers, and 5 students involved in creative studies and related jobs in Sri Lanka. 50 random posts (latest 50 posts) of each follower were observed in terms visually, title, and hashtags, and the selected followers were not influenced or informed about the research. Based on observations the posts were segregated into different themes where they were analyzed for common themes related to learning and teaching experiences. Seven themes were developed to understand the potential role that Instagram can play in creative education.

Considering the limitations of the study there is one limitation of this purposive sampling method as there is a possibility that another expert would come up with a different sampled element from the same target population. The massive amount of visual and textual data released by social media can be very challenging (Kitchin, 2014). Hence, these researches related to social media need serious attention regarding representativeness and validity of data (Brooker et al., 2015)

**Findings**

Creativity can be measured in different ways (Barrantes-Vidal, 2004). Divergent thinking is a key tool in the creative thinking process that indicates creative achievements (Plucker, 1999). The below themes were explored through the canalysis which represents the components of divergent thinking. The themes reveal a spontaneous, free-flowing, "non-linear" manner of divergent thinking such that many ideas are generated in an emergent cognitive way.

Self-revealing/inner feelings- The selected Instagram users had expressed themselves through Instagram posts. Their artistic works were accompanied by short or long annotations which carried their inner feelings of them. The ability for critical thinking and self-reflection were observed among them.

Peer evaluation- The posts were allowed for criticism and mostly, two-way communications were visible between the creator and the commenter. However, both crucial and inappropriate peer evaluations were observed as some comments were as bias as they had just commented like “wow” or “nice work”. Works in progress were mostly exposed to peer evaluation using Instagram features such as polls and comments. It was observed some of them had really improved their work based on the comments and posted their finished work later on Instagram.
Teaching experiences- It was observed that the selected Instagram group had shared their teaching experiences, mostly with positive attitudes and they had connected their posts with similar teaching communities via hash tagging.

Criticism- Instagram has been used as a platform to criticize some of the experiences they had in a formal learning environment. Ex: A tertiary design teacher had criticized the bureaucratic dress codes of tertiary teachers.

Collaboration- The selected group had followed hashtags in their posts intentionally or unintentionally. That helped them to collaborate with similar communities and be a part of them. It was visible as a form of group learning as well.

Active participation- Among the selected group active participation was observed in their Instagram life as they had a daily contribution. The contribution happens in numerous ways such as new posts, stories, likes, or comments.

Motivation- Instagram was open for open challenges such as “15 days drawing”, “photo-a-day”, “sketchbook challenge”, “Inktober”.etc. These challenges were sort of stimuli for the followers to continue with their creative work or to bring out new ideas into the platform.

The observations identified creative education-related themes such as critical thinking, self-reflection, peer evaluation, collaboration, motivation, and group learning as some of the learning components visible in Instagram posts of creative education teachers and students. This demonstrates that social media provides students with an opportunity to create, share and comment on relevant content (Manca et al.2016), and as Purnama (2018) has suggested, confirms how tools such as Instagram can increase students’ motivation and participation in classroom activities. However, this also demonstrates the potential that Instagram has to support creative education in an informal learning environment too. These common themes visualize the divergent thinking process. Many of these had happened spontaneously, free-flowing, and in a non-linear way in a free and open digital environment. However, it is not clear to what extent this helps in the learning process. Given the potential for the learning process, this research is being followed up by the author in an in-depth qualitative Ph.D. study to understand the role of Instagram in creative education in an informal learning setting.

Discussion/conclusion

With the development of mobile technology social media has become a prominent lifestyle segment in the modern world. Due to the massive popularity and easy access, educators have paid attention to social media. Instagram is one such visual-based social media highly popular among youth and this research reveals how Instagram helps as a divergent thinking tool in design education. Divergent thinking is a key tool in the creative thinking process that indicates creative achievements (Plucker, 1999). A qualitative approach was taken in analyzing these big data and digital ethnography was used. By analyzing 700 Instagram posts and stories seven common themes were identified which
symbolize divergent thinking. However, it is not clear to what extent this helps in the learning process.

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Lynnette Brice. PRACTICE PAPER: Learner Engagement and Success in ODFL. The 3R model: Recognise, Reach & Retain

Outline
The Open Polytechnic is New Zealand’s leading tertiary distance learning organisation with over 30,000 learners enrolled in a range of programmes and courses from Foundation Level 1 through certificates and diplomas to degree at level 7. In 2016 the organisation underwent a transformation that aimed to ensure a learner driven future learning experience that was convenient, relevant, connected, and smart. The vision described key features of an ideal learner experience, one of those key features being a model of tiered learning support, which we later renamed as Learner Engagement and Success. Bringing this vision to fruition became my focus for the next two-three years. This paper describes this development and on-going implementation.

Introduction

Most learner support models and much of the background research on learner support are based upon on-campus and, increasingly, blended modes of delivery. All Open Polytechnic learners study from a distance, which limits the use of traditional face-to-face support strategies and requires innovative solutions. Further challenges arise in the emergence of new data sources and the accessibility and ethical use of that data, and in the factor of scalability.

In considering learning support, Simpson (2012) and Tinto (1993) provide some important ideas around retention and retrieval that transfer to distance learning environment: Tinto points to both the limits of institutional actions and the responsibilities of institutions, highlighting the understanding that learners leave for both academic and non-academic reasons. Where reasons are non-academic, there will be situations that institutions cannot influence (perhaps), usually events that occur in learners’ broader lives. Where they are academic reasons, institutions have responsibility to accommodate and provision the mechanisms that enable learners to succeed. In Tinto’s view, institutions should focus their attention on entry, rather than exit.

In higher education, four root causes for attrition are identified: Adjustment – new and strange expectations and behaviours, new challenges; Difficulty - lack of preparedness, lack of integration;

Incongruence – lack of fit, mismatch between character of the institution & individual; Isolation – absence of specific contact, lack of significant relationships, experiences of marginality. These causes are related to experiences, not attributes, and in distance education they are magnified by the physical / social / emotional / academic distance that limits traditional, wrap-around learner support services. Causes of attrition are also magnified by learners’ perceptions of isolation and lack of connection to the institution.
Building on earlier work by Seidman (2006), Simpson offers a retention formula for learner success:

\[ S = AC + Eid + (E + C) \text{ PaM} \]

\( S = \) Student Success = Appropriate Course Choice, plus early identification of vulnerable learners, plus Continuous and Proactive motivational support (Simpson, 2012)

This formula places emphasis on the early, on-boarding phase of the learner journey. Ensuring the learner has a positive, on-boarding experience mitigates the effects of the potential root causes in attrition and maximises the opportunities for successful engagement in on-line distance learning.

These ideas informed our early work in our design and development of the tiered model.

The design and development of the tiered model.

In the first phase, a Transformation Blueprint gave us the high-level vision of learner support. Around this vision we took two branching actions – one was to convene a Community of Practice from our own Learning Delivery staff to develop sets of Professional Practice Standards for Academic Staff Members and Student Mentors aligned to the Open Polytechnic AKO Strategy for Teaching and Learning. The Professional Practice Standards set the expectations for an ideal learner experience described in the transformation blueprint and provided practical strategies for Academic Staff Members and Student Mentors in their work with learners.

The second branching action was to form an Agile/Scrum project team to bring together the technological solutions for data analytics and communications tools that would help us identify those early vulnerabilities and form effective ways of communicating with learners that were scalable – critical in a student body of 30,000 plus. This action underwent three evolutionary phases over the next three years which might be described as Phase 1: early exploration, Phase 2: creation & re-creation, Phase 3: consolidation.

Phase 1.

In the early exploration phase, we explored the foundation of what a tiered model would look like and investigated a technological solution for communications with the learners we had started to identify as “exceptions.” This was based on the understanding that the majority of learners navigate the on-line learning experience through the intuitive functions of own learning management platform iQualify, the intentional design and development of our learning materials, and with the Academic guidance provided by academic staff, without the need of further intervention. We were looking to discover our exceptions, those who couldn’t find their way, or those who floundered along the way.

The second aspect for Phase 1 explored technologies that would deliver the identified “exceptions” to a team of mentors for an intervention. This is where we floundered ourselves, we went too quickly to a single technology solution without having the full understanding of how we would identify the exceptions and what full
technological capabilities we would need. Essentially, we chose a solution without fully understanding the problem.

**In Phase two** we retraced our steps and abandoned the first technology tool as inadequate, focussing now on the ways of identifying the exceptions by exploring more deeply what the data was telling us. This analysis work evolved into a set of binary rules which eventually became what we now call “Success Criteria.” These binaries identified critical signposts in a learner journey, for example, the first binary asked is the learner “New to Open Polytechnic? Yes/No. If yes, following Tinto’s views around early adjustments, these learners were identified as exceptions based on the understanding that those who hadn’t studied by distance or on-line previously, would benefit from personalised on-boarding intervention. We began to build specific intervention processes and templates for the first small team of mentors to follow. Simultaneously, we built the first set of data dashboards for the mentors to access relevant learner information. We continued to investigate, prototype, trial, refine or abandon various technologies and communication tools.

**In Phase three**, we were able to consolidate on the first explorations and developments. The project work formed around two interconnected imperatives: data analytics and communications technologies.

In the data analytics work, three aspects emerged: we consolidated the binary rules, expanding them to become five sets of Success Criteria, we developed a set of PowerBi reports that mentors used to identify the exceptions learners according to each Success Criteria and another that identified what we came to call Priority Courses, based on a number of critical scoring measures. We developed processes and data for measuring and reporting on the success/impact of the intervention strategies built around each Success Criteria.

There was a further imperative that has remained elusive but will be the focus of the next stage of this work – an automated workflow tool that delivers the exception learner to the mentor, records the progress of each interaction and sets in place the next action required.

**Where we are now: The Open Polytechnic tiered model of Learner Engagement and Success**
**Tier one**, at the foundation, is a set of tools and resources learners can access 24/7 based on their own needs and requirements. This tier includes resources housed on our web-site such as videos that welcome learners to the Open Polytechnic, explain how to log in, and how to navigate through the iQualify Learning management System. Other tools include study skills resources, a time calculator tool, and essay and assessment writing guides. This tier also includes the access to ICT support, information guides, direct links through to the IT service desk, and access to the Library and Learning Centre, library materials and additional resources, assignment and referencing support from Library and Learning Centre advisors.

Welcome video link:https://vimeo.com/openpolytechnic/review/400769598/0805a3841d

**Tier two** is driven by data analytics that firstly identify Priority Courses and then identify exception learners at the critical points of attrition in those priority courses. Tier two is a system of intentional engagement that includes three components: Identification of “priority courses” through Priority Scoring, a set of Success Criteria, and a system of targeted personalised interventions. These three components address three key intentions: **Recognise, Reach and Retain**.

**Recognise: Identification of Priority courses through a Priority Score**

All courses delivered on the iQualify Learning Management system have on-line teaching and learning facilitation provisioned by Academic Student Members. Additionally, Student Mentors are assigned to priority courses identified by a high Priority Score. By this method we can assign mentoring resources in response to the highest areas of learner need. The priority score mechanism in a real-time tool that enables responsive management oversight across all learning areas.

The Priority Score assigns a score to each course from 1 to 0:

- 1 = ‘high priority’ for additional Student Mentor engagement
The Priority Score is a simple weighted rank calculation which is often used to rank items based on several criteria. Below is an overview of how it works:

Each metric is given a weighting, indicating the importance of the metric for identifying a Priority Course for Student Mentor support.

These are the initial weightings used for the Priority Score. These weightings are expected to be reviewed periodically to ensure they align with current educational priorities. Below is the first iteration of the design developed in November 2020:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Importance</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Students</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Māori Successful Completion Rate Equity</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td>Pasifika Successful Completion Rate Equity</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td>All Successful Completion Rate</td>
<td>3</td>
<td>0.08</td>
</tr>
<tr>
<td>All First Assessment Pass Rate</td>
<td>3</td>
<td>0.08</td>
</tr>
<tr>
<td>All First Assessment Submission Rate</td>
<td>3</td>
<td>0.08</td>
</tr>
<tr>
<td>% Māori Students in Course</td>
<td>4</td>
<td>0.07</td>
</tr>
<tr>
<td>% Pasifika Students in Course</td>
<td>4</td>
<td>0.07</td>
</tr>
<tr>
<td>% Disabled Students in Course</td>
<td>5</td>
<td>0.04</td>
</tr>
<tr>
<td>% of Students Repeating</td>
<td>5</td>
<td>0.04</td>
</tr>
<tr>
<td>% of Students Withdrawn</td>
<td>5</td>
<td>0.04</td>
</tr>
</tbody>
</table>

For each of the metrics, courses are ordered and then given a rank from 1 to 0 based on their relative position within the dataset. The rank for each metric is multiplied by the weighting, then summed together for each course to give the Raw Priority Score. For example, for Course 4 in the example above:

Course 4 Raw Priority Score = (Total Students Rank * Total Students Weight) + (Successfully Completed Rank * Successfully Completed Weight)

= (1 * 0.3) + (10% * 0.08)
= 0.36
To get the final Priority Scores, the courser are ordered by their Raw Priority Score, then ranked from 1 to 0 based on their relative position within the dataset.

In the example below Course 4 has the highest Priority for Student Mentor engagement because it has a high number of students and low Successful Completion Rate.

<table>
<thead>
<tr>
<th>Course</th>
<th>Total Students</th>
<th>Rank</th>
<th>Weight</th>
<th>Rank x Weight</th>
<th>Successful Completion Rate</th>
<th>Rank</th>
<th>Weight</th>
<th>Rank x Weight</th>
<th>Raw Priority Score</th>
<th>Priority Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 4</td>
<td>100</td>
<td>1</td>
<td>0.3</td>
<td>0.3</td>
<td>10%</td>
<td>0.8</td>
<td>0.08</td>
<td>0.08</td>
<td>0.36</td>
<td>1</td>
</tr>
<tr>
<td>Course 1</td>
<td>50</td>
<td>0.8</td>
<td>0.3</td>
<td>0.24</td>
<td>45%</td>
<td>0.4</td>
<td>0.08</td>
<td>0.08</td>
<td>0.27</td>
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<tr>
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<td>23</td>
<td>0.6</td>
<td>0.3</td>
<td>0.18</td>
<td>90%</td>
<td>0</td>
<td>0.08</td>
<td>0.08</td>
<td>0.18</td>
<td>0.6</td>
</tr>
<tr>
<td>Course 3</td>
<td>10</td>
<td>0.4</td>
<td>0.3</td>
<td>0.12</td>
<td>88%</td>
<td>0.2</td>
<td>0.08</td>
<td>0.08</td>
<td>0.14</td>
<td>0.2</td>
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<tr>
<td>Course 5</td>
<td>9</td>
<td>0.2</td>
<td>0.3</td>
<td>0.06</td>
<td>5%</td>
<td>1</td>
<td>0.08</td>
<td>0.08</td>
<td>0.14</td>
<td>0.4</td>
</tr>
<tr>
<td>Course 2</td>
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<td>0</td>
<td>25%</td>
<td>0.6</td>
<td>0.08</td>
<td>0.05</td>
<td>0.05</td>
<td>0</td>
</tr>
</tbody>
</table>

Using another set of data, we identify struggling or potentially struggling learners according to a set of ‘Success Criteria’.

**Reach: Sets of Success Criteria**

Mentors are assigned to a group of Priority Courses, their interventions are determined by the five Success Criteria responding to known points of attrition along the learner journey, from the time of enrolment and gaining access to the course through to course completion. Initially, there were five Success Criteria, some with subsets within:

- SC1: ākonga is new to iQualify (has not studied by distance before)
- SC2a: ākonga has not logged on to course at day 15
- SC2b: ākonga has not logged on or has low engagement at day 22
- SC3: ākonga is repeating this course
- SC4: ākonga has low A and Low E scores at day 35 (Tier 3 long term intervention)
- SC5: assessment alerts (assessment is due or due date missed)
Intentional Intervention:

Each Success Criteria has a defined process, mapped from a data dashboard that “flags” learners identified under each Success Criteria Rule. For example, if a learner has an assignment due within the next 7 days they will be identified on the priority course dashboard for the mentor to intervene. A set of staged communication tools and templates, intentionally designed to build relational connections with learners, determine the steps of the intervention. The example below shows the intervention steps for Success Criteria Five (Assessment Nudges).

Tier three, also driven by data analytics, is an intentional intervention that identifies learners who might benefit from additional long-term mentoring engagement and guidance. The third tier of our Learner Success Model enables specific and intentional targeting of the complex social and educational factors that influence learner participation and success, implementing a combination of the learner’s prior educational achievement and their current (real time) level of engagement with content, peers, tutor and assessments. This Tier allows for differentiated resources and services to be accessed by those priority groups that most benefit from them. Informed by metrics, learners with the highest need receive the highest levels of intervention within the tiered model of systematised, personalised, culturally relevant, positive intervention.
Measuring Impact and Success

Also built into the model is a baseline and impact measure report for each Success Criteria intervention. This enables us to drill into specific learner groups, into specific courses, and into the success of each intervention. Evaluation of these interventions continues through 2021.

Evidence for the effectiveness of second tier of the support is, at the time of writing, becoming available through these impact report. The report below shows the baseline and impact of Success Criteria 2.

Success Criteria Two – No Learning Interactions

Metric One - Students with no in course learning interactions by day X

Baseline vs. Impact Period

<table>
<thead>
<tr>
<th>Metric</th>
<th>Period</th>
<th>Dates</th>
<th>Result</th>
<th>% Point Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>No LI Day 15</td>
<td>Baseline</td>
<td>Jan 2018 - June 2020</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact</td>
<td>July 2020 - Oct 2020</td>
<td>9%</td>
<td>-7%</td>
</tr>
<tr>
<td>Less than 10 LI Day 22</td>
<td>Baseline</td>
<td>Jan 2018 - June 2020</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact</td>
<td>July 2020 - Oct 2020</td>
<td>12%</td>
<td>-6%</td>
</tr>
<tr>
<td>Less than 10 LI Day 29</td>
<td>Baseline</td>
<td>Jan 2018 - June 2020</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact</td>
<td>July 2020 - Oct 2020</td>
<td>7%</td>
<td>-7%</td>
</tr>
<tr>
<td>Less than 10 LI Day 43</td>
<td>Baseline</td>
<td>Jan 2018 - June 2020</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact</td>
<td>July 2020 - Oct 2020</td>
<td>4%</td>
<td>-6%</td>
</tr>
</tbody>
</table>

Further evidence is collected from ākonga responses to these ‘just-in-time’ interventions:

“Thanks for the call really appreciate the help. Definitely made me feel a lot better talking about it.”

“You're a lifesaver! Massive weight lifted off my shoulders”

“Again, thank you so much, you were very helpful getting me through this”

“Thank you so much for emailing. I was feeling quite anxious and was talking myself out of doing this and then I saw your email.

Right, here we go…”

“Thank you so much for your time today and making everything seem so straightforward. I am really looking forward to my studies now!”

Future plans and further opportunities for learner support

Further development of the model includes a review of tier one resources and services to strengthen our focus on self-efficacy. This includes increasing attention to on-line tools that support aspects of neurodiversity, and a broader range of general health and wellbeing information and resources.
We also recognise the need for on-going evaluation of Success Criteria to monitor the effectiveness of interventions at an organisational level, and at a course level. This evaluation has already prompted change to the way the Success Criteria are positioned, moving two of the original five into the top tier of the model as we recognise the need for longer-term engagement for some priority learners.

Increasing automation and improving the efficiency of the ‘Reach” aspect of the 3R model is an important focus for on-going development of the tiered model. And, importantly, finalising the reporting and communication tools that deliver a fully integrated and interconnected “system” of intervention and outcome is a priority for this development.

Discussion/ Conclusion

The design and development of the Tiered Engagement and Success model responds to the Open Polytechnic organisational commitment to provide a conducive environment in which to learn and succeed. Drawing from Vincent Tinto’s (2009) established Theory of Retention this represents our response to learners’ expectations, support, and involvement. Building on this theory, the tiered model intentionally refers not to “Support” but to “Engagement and Success.” The model provisions resources and tools that enable learners to resolve their own difficulties and in so doing build efficacy and independence. Where this is not possible, the tiered model responds with personalised, positive interventions. Having a model that moves away from the notion of support to that of engagement and success is an advancement of traditional models and theories. The focus is not on supporting a learner – which implies that the learner somehow needs lifting or holding up, but on empowerment- enhancing mana. It assumes that an exception is caused by a temporary problem that can be rectified by a timely intervention. It provides a proactive means of responding to general and specific needs of distance learners in ways that are scalable and effective. The model presents resources and services that are both universal and individually targeted. It addresses the initial, critical on-boarding experience and the on-going institutional responsibility to intervene when a learner falters along the way.

References


Marion Blumenstein, Mark McConnell, and Steve Leichtweis. PRACTICE PAPER: Thank you for caring!
Learning analytics – informed course design enhances student connectedness and reflective practice

Outline

The continuing shift towards online and blended learning in higher education presents specific challenges to providing timely and targeted feedback to students so that they feel emotionally and academically supported. Recent advances in the field of learning analytics (LA) research promise new approaches to scaling constructive feedback that focuses on learners’ individual needs based on engagement data gleaned from online learning environments. Free LA tools such as OnTask, developed by higher education teachers for the classroom, have the potential to enhance student engagement and motivation as well as providing a lens into the effectiveness of the course design. In this participatory action research we implemented OnTask in a very large first year core paper on a Bachelor of Commerce degree with the aim to personalise students’ learning experiences, enhance connectedness and identify those at risk of underperforming early on. A participatory action research approach was most suited for this collaborative and iterative process whereby the course was re-designed to include meaningful data points that could inform tailored and timely feedback to students. Focus group discussions and a metacognition survey revealed that email messages directed at students increased help seeking behaviour, broke down feelings of anonymity, and made the teacher more. The intervention also proved to be invaluable for reflective teaching practice; the effectiveness of learning design elements enabled evaluation against their pedagogic intent. Personalised student feedback utilising LA fostered social connectedness and student well-being. The impact on learning outcomes will be discussed against theories of affective and self-regulated learning from both the student and teacher perspective.

Introduction

Student success at university requires both academic and socioemotional learning support. For students to actively engage with their learning constructive feedback and appropriate communication is vital in fostering academic, social cognitive and affective engagement (Finn & Zimmer, 2012). There is widespread consensus on the power of constructive feedback to focus learner motivation (e.g., Hattie, 2015), but much work is still to be done around analytics-informed personalising of the student learning experience in higher education, particularly in large lecture settings.

In recent years, the affordances of learning analytics (LA) technologies offer new possibilities in providing personalised feedback (Pardo et al., 2018). The field of LA is constantly exploring new ways on how to combine multiple data sources and use this information to increase our understanding of how students learn towards improving learning and teaching in higher education (Gašević, Kovanović & Joksimović, 2017). More recently, a free LA tool, OnTask
(https://www.ontasklearning.org), has emerged in the space of scaling student feedback with the aim to bridge the gap between LA research and practice to improve ways of personalising communications with large student cohorts (Pardo et al., 2018). The impact of LA-data informed feedback on student success is promising (Pardo, Jovanović, Dawson, Gašević & Mirrihari, 2019) but remains highly contextual. Therefore, local research is much needed to share common practice and hurdles to implementation. Here we present a case study on the use of OnTask in a large undergraduate core course to gain actionable insight on student engagement and learning behaviours to inform tailored email feedback to enhance the student experience overall, and according to specific needs. The impact on teaching practice and student outcome was explored in interviews as well as student discussions and a questionnaire on self-regulated online learning.

The practice under scrutiny

The present case study was borne out of the lecturer’s (second author) desire to enhance the learning experience of a large Commercial Law paper (800 to 1000 enrolled students), a first year core subject in the Bachelor of Commerce degree. Traditionally, the paper has a high failure rate since law is not taught at high school and conceptually different from most other academic subjects. Further, students are generally not interested in law but need to pass the course as part of their degree negatively affecting motivation and engagement. What followed was a course re-design and implementation of the LA tool OnTask. The methodological approach taken involved a participatory, collaborative and iterative process aligned with participatory action research (McTaggart, 1991). The action research cycle of plan, act, observe and reflect was enacted over three years (2017-2019). This approach ensured the success of a learning intervention that required the contextual knowledge of the teacher combined with the analytical expertise and technical knowhow of learning design experts (first and last author).

To capture meaningful student data that could inform tailored feedback, indicators of engagement and understanding were included in the design at critical time points throughout the semester. These included tutorial attendance, resource use, and weekly formative quizzes. Examples of email nudges to students based on their engagement data ranged from generic messages, for example, “Well done, keep up with your good work”, to more specific advice such as “Are you aware of the study skills workshops on [subject] at [time and location]?” or “I’d like to see you make more use of the additional resources in [online module] to help you with [topic/skills/language development]”. During the semester, students received on average three emails at critical learning points.

Two interviews with the lecturer, one at the start of the OnTask intervention and the other at the end of the three year cycle, clearly showed changes in teaching practice. Initial hurdles to implementation of the new technology included increased workload that followed on from the re-design of the course to be fit for meaningful data capture, writing of personalised messages to ensure consistent teacher presence and outline of expectations, and an increase in student queries asking for help. After the third iteration of OnTask, and overcoming the challenges outlined above, the revitalisation of the course became more evident. The lecturer and the teaching team conceded that LA data gave actionable insight on students’
learning behaviour, leading to greater awareness of students’ needs resulting in a more holistic culture of change and teaching evaluation.

To unpack the student perspectives (University of Auckland Ethics Approval #018684) on the use of LA-informed feedback and to evaluate its effectiveness, responses were collected via a self-regulated online learning questionnaire (adapted from Jansen, Van Leeuwen, Janssen, Kester, & Kalz, 2017) surrounding questions on metacognition (18 items), time management (3 items), persistence (5 items), and help seeking (5 items) but omitting five items on environmental structuring (study space, physical location). The majority of students (87% out of 210 survey respondents) generally agreed that the tailored feedback was helpful and resulted in better effort control. An overwhelming majority (92%) felt more motivated, indicative of the influence of affective learning processes through validation of effort and a general feeling of being cared for. Help-seeking behaviour increased significantly which was evident through higher attendance at office hours, increase in email queries, and improved attendance in academic skills workshops (3-fold). The impact on overall academic achievement (marks) has yet to be determined and changes may be more profound for particular student groups, such as repeating students. Three focus group discussions involving 20 students were conducted at the end of each semester and reiterated some of the survey findings, for example, personalised feedback led to improvements in belonging and help-seeking.

Discussion/conclusion

The LA intervention applied in this case study is grounded in nudge theory (Thaler & Sunstein, 2008), intersecting the key idea of teachers as ‘choice architects’ to provide cues to students to positively influence their engagement and self-regulation. The findings show that scaling personalised feedback in blended learning environments break down student perceptions of anonymity and therefore enhance students’ wellbeing and belonging. Feedback exceeded students’ expectations of learning support and improved their overall course experience which was reflected in an improved teaching evaluation. Scaffolding learning tasks and embedding a culture of care into the curriculum is particularly important for students transitioning into tertiary study from high school with the potential to improve retention. Research on LA-informed interventions more often is more often concerned with the impact on learning gain and academic performance (for review see Blumenstein, 2020), but valuable lessons can be learnt by exploring the ‘soft outcomes’ (Kosters & Van der Heijden, 2015). In addition, data-informed approaches to learning design hold great potential for reflective practice and provide valuable insight on whether certain learning interventions and/or design elements fulfil their pedagogic intention.

Take home messages

Instructors wanting to use LA to scale student feedback need to embark on a collaborative approach to implementation, requiring learning design experts in tandem with the teaching team and/or other student support teams to successfully manage the extra workload resulting from personalising the student learning experience in order to close the feedback loop.
An analytics approach to learning design can support reflective practice and overcome the challenges of very large lecture settings with "1000 individuals, with different personalities, concerns & issues" facilitating a greater level of communication between the instructor and the students.

OnTask facilitates personalised feedback provision at a large scale and enables students to improve effort control and engagement with the course. A key takeaway is that feedback tailored to specific learning needs is more effective than generic messages of encouragement. The teacher’s voice needs to be authentic and supportive rather than critical.

References


https://doi.org/10.1111/bjet.12592


Outline

Practice-based learning is the main vocational education and training (VET) pedagogy in New Zealand. Practice-based learning implies learning which encourages the application of knowledge, skills, and dispositions to various tasks in authentic situations and workplace/occupational practice. Through ‘hands-on learning by doing’, knowledge is applied to practice; many skills are learnt and perfected; and important dispositional traits are attained.

Yet, the efficacy of practice-based learning, has had little study. The formation of Te Pukenga (the NZ Institute of Skills and Technology) provides the opportunity to leverage off the efficiencies afforded through national coverage of VET, to provide personalised and flexible learning to learners. Therefore, this paper represents a summary of work undertaken to better understand how practice-based learning is constituted and how it may be supported through the affordances of flexible learning, to ensure ‘the learner is at the heart of all learning’.

The paper is thus a think piece to open conversations into the opportunities presented. To begin, a brief summary is provided as to how practice-based learning contributes to the learning of knowledge, skills and dispositions leading to learners’ attainment of occupational identity. That is for example, how they learn to become bakers, nurses, carpenters, musicians, software programmers. The precepts of personalised and flexible learning are then connected to practice-based pedagogies. A model of flexible learning for VET is then rationalised and proposed.

Background and introduction

Vocational education and training (VET) provide learners with the knowledge, skills and dispositions/attributes required for entry into the workforce and upskilling for people in current employment or for those seeking a shift in their career trajectories. As such, all the educational sectors in New Zealand (i.e. school, institutes of technology and polytechnics (ITPs) universities), contribute towards VET. A key pedagogy of VET is practice-based learning. This is the learning undertaken in authentic, situated learning environments to learn the knowledge, skills and dispositions characterising specific occupations. Learners enrolled in ITP programmes of learning engage with practice-based learning through learning activities affording opportunities to ‘learning by doing’ in learning environments set-up to replicate workshops, studios, health practice wards or consultation rooms with access to the many specialised machinery, equipment and materials defining occupational work practice.

However, the future of work indicates the need for all workers to be agile throughout their careers, requiring many to undertake continual learning and upskilling, to adapt to rapid changes in work tasks, job definitions and occupation shifts (Frey & Osborne, 2017). Therefore, VET must not just focus on post-school preparation for initial entry into work but also provide continuous professional
development as occupations wax and wane due to the impacts of globalisation, accelerated speed of digitisation/automation and social change. To ensure VET meets the needs of learners, flexible options for qualification attainment, course delivery and mode of learning are required. This flexibility allows workers to ‘learn while they earn’, to ensure they maintain occupational currency to sustain their present employment or to access new learning to shift to new forms of work.

In 2020, Te Pukenga was formed, bringing together all NZ ITPs and Industry Training Organisations (ITOs) to provide the consolidation of institutionally and workplace-based (i.e. apprenticeships and trainees) VET. When fully established, Te Pukenga will be the 35th largest tertiary institute in the world. Te Pukenga represents an ideal opportunity to put in place the vision of ‘the learner at the heart of learning’ through ensuring learners’ needs and aspirations are at the forefront of curriculum structure and support (see Te Pukenga, 2021 for further information). Hence, this paper proposes some concepts on how VET may be structured to be much more personalised and flexible for individual learners.

**Practice-based learning**

VET’s primary pedagogy is practice-based learning. Within the ITPs, ‘learning by doing’ is undertaken in a variety of specialised learning environments, many configured and equipped to replicate authentic workplace with specialised tools, machinery, and access to materials. For apprentices and trainees, work-based learning occurs as learners engage with the normal production requirements of the workplace. Practice-based learning is founded on mimesis and memetic learning (Billett, 2014). Mimesis refers to the processes of observation, ‘imitation’ and practice required to hone skills; connect theoretical knowledge to work tasks; and attainment of the specific occupational dispositions to maintain productive and fulfilling work (Billett, 2014). Mimetic learning refers to the support structures for mimesis (Billett, 2014). Firstly, individuals construct meaning from engagement with mimesis. Secondly, socio-cultural supports in the form of feedback from peers and more knowing others, help learners to make sense of their experiences. The interactions and interrelationships VET learners have with the sociomaterial aspects of work, also contribute to their learning trajectories. The sociomaterial refers to the feedback learners encounter from tools, machinery, equipment, materials, environments of work (Fenwick, Edwards & Sawchuk, 2011). Both socio-cultural and sociomaterial feedback, help learners, as they learn through observation, imitate, customise, and refine the movements observed, and deliberately practice work tasks, to attain aspects of occupational identity. Eventual attainment of expertise means many of the skills, knowledge and dispositional aspects defining specific occupations become embedded and embodied in practice. Hence, learning by doing, leads to people learning how to ‘become’ (Chan, 2020).

**Supporting practice-based learning**

Learning by doing is enhanced when practice-based learning pedagogies inform the design of teaching and learning. These pedagogies include the identification of ‘rich’ learning opportunities; the modelling of practice; ‘making
learning or thinking’ visible and guided practice. Each of these is now briefly discussed.

Rich learning opportunities

Certain aspects of work tasks may be defined as pedagogically rich. That is, they provide many opportunities for novices to learn, through observation, and to engage with the other three important aspects of practice-based learning, modelling of practice, making learning or thinking visible, and guided practice. Each occupation will, through the rhythms of work schedules and task enactment, provision opportunities for viewing, discussing, and reflecting on practice. The example used by Billett (2011) is of nurses ‘hand over’ meeting between shifts, whereby the many practices, and judgements considered in patient care, are passed on by the nurses completing their shift, onwards to the next group of nurses. Through these ‘hand overs’, the language, specific knowledge, and nuances of practice, are articulated. On some construction sites, ‘tool box’ talks often begin the day’s shifts. Again, when well facilitated and structured, these short meetings, provide the forum for workers to discuss challenges and issues, providing novices with opportunities to familiarise themselves with the processes going on around them and exposure to the language of the trade (Parkinson, Demecheleer & Mackay, 2017). The identification of these ‘pedagogically-rich’ opportunities for learning is crucial to their contributions to practice-based learning. It is not so much the participation or observations by novices, but opportunities for debrief and reflection which provide the learning.

Modelling of practice

Mimesis relies on the observation of practice. Therefore, the modelling of practice, whether directly or indirectly, through narratives (i.e. ‘war stories’, conversations during team meetings, toolbox talks, or tea break) and the sharing of ‘the tricks of the trade’ provide learners with examples, and exemplars to ‘imitate’. As with participation in ‘pedagogically-rich’ learning, opportunities for novices to observe practice, either directly (as with practical demonstrations of work tasks) or indirectly through hearing stories. These stories again provide novices with the opportunities to learn the expected protocols, problem solving heuristics and specialised practice approaches of their occupation (Brown & Duguid, 2000).

Making learning or thinking visible

The above two sections propose the mechanisms for helping learners make better sense of their ‘learning by doing’ activities. However, mimesis is supported through using strategies, during occasions of ‘pedagogically rich activities’ and modelling of practice, to help reveal some of the hidden aspects of work tasks. As prefaced in the previous section, the knowing and fluency of practice displayed by experts, has become subsumed and embodied into their practice. Many of the ways they go about doing are reliant on ‘tacit knowledge’ which is the knowledge available to people but difficult for them to deconstruct and to articulate. Hence, it is important to adopt strategies to assist practice-based learning approaches, to ‘help make learning or thinking visible’ (Collins, Brown, & Holm, 1991). This may be achieved through the aspects described in the above two sections and through guided practice (discussed below).
Guided practice

Socio-cultural learning involves guided practice which is direct, proximal or indirect. Direct practice is a hallmark of ‘hands-on learning’ in workshops, training kitchens, science laboratories. The teacher will often repeat an action to reinforce skills learning or use their body/arms to guide the learner to replicate the correct stance/posture, manipulation of a tool or movement. Indirect guided practice involves providing the opportunities to observe, listen and ‘learn through osmosis’. Both direct and indirect practice, may now be achieved virtually through video or with augmented or virtual reality (AR/VR) simulations.

Supporting practice-based pedagogies

Both face-to-face (f2f), digitally-supported/enabled learning and/or a combination of both, are the means by which practice-based learning are experienced by learners. As such, it is important to ensure each of these delivery approaches, support practice-based pedagogies.

F2f

As prefaced in the above section, f2f sessions are the most effective way to support practice-based learning. The teacher demonstrates a skill. In doing, there is also a demonstration not only of the physical actions, but also the modelling of the dispositional approaches required (i.e. precision, care, perseverance) and often, the creation of an exemplar (i.e. the final product). Learners then move on to ‘imitate’ and complete the demonstrated task. Through learning strategies including some trial and error; imitation; and deliberate practice (i.e. the focused reflective repetition and refinement of skills learning); practice-based learning is enacted.

Digitally enabled/supported or distance learning

One of the ways to assist practice-based learning when access to f2f learning and specialised learning environments is disrupted, is the use of short and focused videos of practice. Through viewing the video, the demonstration aspect of f2f practice-based learning, to provide pedagogically-rich learning experiences, and to model practice, may be achieved. Digital technology is useful in assisting learners and their teachers to discuss the implications of the video. The process is enhanced when learners are tasked with a learning activity to perhaps summarise the steps taken in the procedure or to critique certain elements from the video. The results from these learning activities, help to provide the basis for helping to ‘make the thinking and learning visible’ and to provide some of the conditions for guided learning.

Blended

Blended learning through the combination of f2f with digitally-enabled learning combines the best of both forms of delivery (Bowyer & Cameron, 2017). Each component of practice-based learning pedagogy may be supported through the design of integrated learning activities to ensure ‘hands-on learning’ undertaken in specialised practice-based learning environments with the utilisation of appropriate technology-enhanced learning to augment the ‘hands-on learning’.
The push-connect the dots-pull model

One way to envisage the design of practice-based learning is to organise/design learning as being ‘pushed’ to learners in the form of resources (i.e. video, photos, worksheets). Evidence of learning is then ‘pulled’ from the learner. For example, when a video is ‘pushed’ to learners, the learning activity requires students to provide some form of summary or answer questions based on having watched the video. The f2f session or video conference discussion (i.e. the facilitated session to ‘connect the dots’) is then based on learners’ submissions. Active learning is assured, helping learners make sense of their experiences. Although the model is not unique, the terms used provide VET teachers with an easily visualised framework to plan blended learning and teaching.

Personalised and flexible, practice-based learning

Personalised or individualised learning whereby the learning curriculum is structured around the learning objectives for individual learners, has a long history (Garrick, Pendergast & Geelan, 2017). Flexible learning complements personalised learning as flexible learning allows learners to select what, when, how and where they learn. Constructivist learning theories support the notion of learners being able to make sense of their learning as they engage with learning activities. With practice-based learning, the pedagogies summarised in the above section, provide guidance as to how to best structure and organise personalised and flexible learning.

Figure 1: A model of flexible, practice-based learning
Figure 1 provides a summary for a model for flexible, practice-based VET learning. Learners require support to unpack the skills, knowledge and dispositions they already have as they come into a programme of learning. A ‘learning contract’ may then be outlined, as to how the learner attains the ‘added value’ skills, knowledge, and dispositions to meet the graduate profile outcomes of the qualification they seek to attain. Learning activities are identified to support learners’ in learning the new skills, knowledge, and dispositions. These learning activities are structured around the precepts of the practice-based learning pedagogies detailed in the sections above. Resources are ‘pushed’ out to students. It is important to identify pedagogically rich opportunities for learning and how these may be modelled. Then evidence of learners’ engagement with the ‘pushed’ resources are supported and elicited from learners. The ‘connecting the dots/learning’ process ensures the many nuances of practice are made visible to learners, ensuring the precepts of practice-based are reached.

Conclusion

This paper proposes a means by which to structure flexible learning supporting practice-based learning opportunities for VET learners. A means to envisage the structure of flexible practice-based learning, whether through f2f, blended or ‘distance’ was proposed. The model described in Figure 1, piloted through the rushed shift in 2020 to support the move to distance delivery, now requires scaling to evaluate its potential and efficacy.
References


Madelaine Armstrong Willcocks. PRACTICE PAPER: GO: Flexible Learning for Gifted Learners.

Outline and Introduction

A flexible learning lens can be readily applied to the often challenging task of meeting the intellectual, social and emotional needs of gifted learners. A flexible learning model and pathway is offered by the New Zealand Centre for Gifted Education (NZCGE) as part of its broader remit to enhance recognition, access and support for gifted learners.

Gifted Online (GO) is a suite of online modules designed for gifted learners in Aotearoa New Zealand and beyond who cannot otherwise access a face to face programme, or who wish to supplement regular school attendance with additional flexible, specialised learning opportunities. The specialist curriculum, teachers and pedagogy offered by GO works well for gifted learners who wish to work with a group of like-minded peers. This practice paper outlines the view of flexible learning taken by NZCGE, the role of the Learning Support Action Plan in supporting opportunities for gifted learners, what flexible learning looks like through the lens of the NZCGE and how this operates in practice. This paper has been prepared by Madelaine Armstrong Willcocks, Programme Manager of the New Zealand Centre of Gifted Education, in conjunction with Vicki Adam, Lead Teacher for Gifted Online, and Lynley Ball, Specialist Teacher for Gifted Online.

The conceptualisation of flexible learning used at the NZCGE is an enhanced one, specifically tailored to a gifted education context.
Flexibility of pace, place and mode of learning are typically envisioned as a three-dimensional matrix of opportunities (for example by Gordon, 2014). These opportunities are informed by pedagogy and supported by technology. We make some important additions to this conceptualisation when working with gifted learners. Firstly content itself must be seen as an opportunity to provide further flexibility – content for gifted learners should be differentiated so as to be advanced and abstracted, with deep and complex interdisciplinary connections. This in turn requires a second addition of being informed by curriculum. As the New Zealand Centre for Gifted Education is a specialist organisation, both pedagogy and curriculum in this conceptualisation are specialist ones. The NZCGE Curriculum is a specialised one, designed to help meet the needs of intellectually and creatively gifted learners in New Zealand. Specialist pedagogy is further informed by the inherent characteristics and preferences as gifted learners. NZCGE also sees flexible learning as characterised by the usual features of personalisation, blending, gamification and synchronous/asynchronous opportunities, as well as the development of autonomy and self-direction over time.

This enhanced conceptualisation of flexible learning allows NZCGE to provide a range of opportunities for gifted learners that uphold priority 5 of the Learning Support Action Plan; meeting the learning needs of gifted children and young people. It was also this enhanced conceptualisation of flexible learning embedded
within NZCGE that allowed all face to face programmes to move swiftly and seamlessly to online delivery during 2020 lockdowns.

The Learning Support Action Plan (2019-2025) recognises that gifted learners are a unique group of learners within the wider group of learners considered to have additional learning needs. Priority 5 clearly outlines the Ministry of Education’s intention to “…ensure gifted children and young people have access to a range of learning that challenges them and helps them to succeed.” A key action for this priority to date has been to support flexible, specialised learning opportunities for gifted learners such as Gifted Online. Key drivers for this action are the need to improve access to such opportunities and to ensure that gifted learners are able to engage with like-minded peers.

Access to flexible, specialised opportunities is important because, as the Learning Support Action Plan succinctly highlights “If their needs are not recognised and supported, gifted children may not progress to their potential, which may have impacts on their identity, and social and emotional wellbeing.” As a matter of equity, all gifted learners require access to educational provisions that meet their unique needs, and taking a flexible approach to this is one way to easily and successfully enhance equity of access.

Engaging with like-minded peers is important for gifted learners. Like-minded peers are those who, as a starting point, “…share similar learning characteristics and dispositions; and those who learn, think, and feel in comparable ways.” (Riley & White, 2016, p.213). Like-minded connections are powerful for gifted learners – intellectually, personally and socially. Riley maintains that “It is critical that gifted students have opportunities to meet, engage and learn with other students of similar abilities and qualities…” (2019, p.15). These connections are likely to be impossible to forge without access to other gifted learners.

Therefore, flexible grouping is a pedagogical approach to both provision and enabling like-minded connections advocated for by Riley (2019), among others. This connects well with flexibility being reciprocally informed by pedagogy, particularly in terms of flexibility of systems, pedagogy and students.

Gifted Online, therefore, takes a flexible approach to meeting the unique needs of gifted learners and fully enacting priority five of the Learning Support Action Plan. Gifted Online utilises selected parts of the New Zealand Centre for Gifted Education’s Curriculum. This curriculum has been designed and reviewed over time in keeping with the notion of localised curriculum; in this instance the ‘local community’ driving the curriculum was the community of gifted learners.

The curriculum aims are that students interact with like-minds over time to:

- Develop an understanding of self and others as gifted individuals;
- Explore and develop strengths, talents, interests and passions;
- Develop and engage in complex thinking;
- Build self-direction and autonomy in learning
- Develop and use sophisticated learning processes
Connections can be readily drawn out between the conceptualisation of flexible learning used by NZCGE and these aims.

Those aims are achieved through the learning strands: The content strands of conceptual, personal and talent development, alongside the process strands of complex thinking, communication and research.

Figure Two: NZCGE Curriculum Strands

The current suite of modules offered by Gifted Online is GO MindPlus, GO Badges and GO Small Poppies.

GO MindPlus is a modified version of the NZCGE MindPlus programme, which is a one day a week, face to face programme for gifted learners aged 6-13 years. GO MindPlus makes use of Google Classroom for asynchronous, self-paced learning as well as weekly Zoom meetings for synchronous time with like-minded peers and a specialist teacher. GO MindPlus focused on conceptual and personal development as well as the learning process strands of the NZCGE Curriculum.

GO Badges are strength-based learning modules, largely asynchronous and self-paced via Google Classroom, with optional Zoom meetings for synchronous time with like-minded peers and a specialist teacher. GO Badges takes a gamified and personalised approach to advanced content and processes suitable for gifted learners, focusing on talent development and the learning processes strands of the NZCGE Curriculum.

GO Small Poppies is a modified version of the NZCGE Small Poppies programme, aimed at parents of gifted pre-schoolers, with asynchronous self-paced activities using Google Classroom for parents to work through with their pre-schoolers as well as synchronous Zoom sessions for parents of gifted pre-schoolers with a specialist teacher to develop their own like-minded parent community. GO Small Poppies content for pre-schoolers touches upon all aspects
of the NZCGE Curriculum, at developmentally appropriate levels for gifted pre-
schoolers.

All GO offerings share familiar characteristics of flexible learning as outlined in
the extended conceptualisation described. Particular features of flexible learning
that are evident in GO modules include enhanced access to appropriate provision,
which supports equity. The generally accepted ubiquity of flexible learning can be
a challenging notion when gifted learners are a more proscribed and relatively rare
group of learners. However, the ubiquity of flexible learning can be
contextualised within gifted education and the events of 2020 have seen Google
Classroom and Zoom rapidly become ubiquitous learning platforms.

Figure Three: Ubiquitous Google Classroom Learning Environments

GO operates as a flexible system, responsive to community need. The
flexible, specialised pedagogy of GO is specifically responsive to
common strengths and needs of gifted learners (such as emotional intensity, need
for depth and abstraction, need for like-minded connection) as well as responsive
to individual strengths and needs. GO offers flexible pace and
mode, with both synchronous and asynchronous sessions, guided- and self-
pacing, with multiple response modes and multiple content options. GO supports
gifted learners transitioning from early childhood settings into school-aged
educational settings (including home-schooling), or transitioning within and
between schools. The key characteristics of personalisation, gamification and
development over time are well embedded with GO modules.

In practice, GO students are largely from rural or remote communities,
demonstrating the need for access to opportunities.

As with any flexible learning initiative, the proof is in the pudding. What is it
that students can gain and achieve through this flexibility? Some small examples
that exemplify interesting outcomes from GO modules include these snippets.
**Giftedness**

*A light turns on. Light shines*

From a GO MindPlus student exploring personal understandings about giftedness, responding to a task by creating a six word story, as a planned and deliberate choice of response and genre.

*Benjamin Franklin is to electricity as lightening is to storms. Both light up our world.*

*Vincent is to equal rights as water is to fire. They both make our life even.*

From GO MindPlus students combining analogical writing with their research into eminent gifted people from history.

Quarks are to atoms what atoms are to everything.

From a GO Badge (Science) student, again using analogical writing to express emerging scientific understandings.

To further expand on what gifted learners might gain from flexible learning opportunities offered in GO programmes, an international PhD project is currently underway. This project seeks to understand how this flexible provision can help support gifted learners in their cognitive and psychosocial development. Although a long-term project, we await the outcomes of this research with keen interest.

An enhanced conceptualisation of flexible learning, one that takes a specifically gifted education approach, is used by the New Zealand Centre for Gifted Education, supporting priority 5 of the Learning Support Action Plan; meeting the learning needs of gifted children and young people. Flexible learning opportunities such as this support equitable access to high quality learning support provisions is essential for all gifted learners in Aotearoa New Zealand.

**References**


Gretchen Badenhorst. **WORKSHOP: Enhanced Video Annotation (EVA) to support Critical Literacy in Flexible Learning**

**Overview**

EVA has wide applicability across subject areas and contexts. In Flexible Learning, EVAs can be embedded in an LMS or EVAs and other digital resources can be collected in a workspace in ELINK, which can then be embedded via a single link in any LMS. EVA, as an Interactive Video Platform, provides a flexible technology solution for the integration of educational video into flexible learning contexts.

Interactive Video, like EVA, is a cornerstone of Flipped Classroom and Hybrid/Blended Learning Models (Brame, 2016). Annotations and tasks are embedded into the video itself, allowing for anytime, anywhere learning.

**Workshop goals**

By the end of this workshop participants will be able to:

- Find, favourite and request videos to use in their teaching
- Add videos to EVA
- Add EVA interactions to videos
- Create Workspaces with curated resource sets in ELINK

**Description**

**Purpose**

Watching videos can be anything from mindless blobbing-out (yes, cat videos on YouTube), through disengaged and engaged passivity, to active learning. To move beyond mild entertainment and activate students’ close listening and metacognitive skills, students need to interact with the video, while watching (Delen, Liew, & Willson, 2014).

The development of questioning and tasks to support critical literacy in digital contexts, forms part of a larger research project for my doctoral thesis, which will look at the role Professional Learning and Development (PLD) plays, in teachers’ capacity to leverage critical competencies in the creation online learning activities. The vehicle for my research is Interactive Video Lessons, created using EVA – ETV’s Enhanced Video Annotation tool.

With EVA, teachers can create the types of questions and tasks that support the development of critical literacy in digital contexts (Bakla, 2017), using EVA interactions, available on the ETV platform. This is supported by exemplars of questions and tasks that encourage deeper levels of critical and creative thinking. Interactive Video Lessons, using EVA, dovetail nicely with flexible learning and can serve as a great starting point for online discussion and exploration of ideas. EVAs
embed into any LMS or website. They can be shared with other users of ETV via link and remixed to suit each educator’s context.

The tools in EVA allow teachers to provide this interactive interface, embedded into their course materials for anytime, anywhere learning. It allows for easy differentiation, because EVA’s can be shared with other creators – who can then edit their instance to suit their own context – or duplicated and each instance edited further to allow for different learner profiles.

Developing Critical Literacy and higher-order questioning are central to Inquiry-based learning – if the answer can be ‘googled’, it is not an inquiry (Mason, 2014)! By scaffolding critical literacy and students' engagement with critical questioning, they in turn learn to ask more complex inquiry-based questions (Brookfield, 2011).

References


Anne Coster and Kirsten Anderson. WORKSHOP: Te Kura Big Picture- young people navigating their lives and their world

Overview
This session will explore the deliberate pedagogical design of a model that

- puts the learner at the centre,
- values learner agency and co-construction,
- challenges traditional linear, content-rich curriculum design,
- leverages a range of technologies to deliver on desired outcomes, and
- recognises the significance of location, community and whānau in preparing young people to navigate their lives and their world.

Description
Purpose

- This presentation will step you through the evolution of our Te Kura Big Picture learning principles - Whakawhanaungatanga, Whakamana, Māramatonutanga, Whaitake and Kotahitanga, and then describe how we’ve used them to develop a new approach to online learning design. The approach promotes holistic outcomes alongside traditional measures, engages learners in learning that is relevant to them in their context, and prepares them to be productive, positive and successful citizens. Along the way we have repurposed existing technologies and discovered new ones that allow us to:
  - **complement** existing learner knowledge, skills, attitudes, values and competencies,
  - **scaffold** new knowledge, skills, attitudes, values and competencies,
  - **promote** learner wellbeing, and
  - position learners to **contribute** to the wellbeing of the communities they are involved in - locally, nationally and globally.

Workshop goals

- An opportunity to gain insight into the evolution of approaches to design for learning online that start with principles for the way we work with ākonga, whānau and communities, rather than a list of content areas to be covered.
- An opportunity for attendees to share their practice in this space and for the group to co-construct potential next steps for future-focused online learning design that builds the skills, knowledge, attitudes, values and competencies that prepare young people to navigate their lives and their world.
Bettina Schwenger. PRACTICE PAPER: Designing for active and flexible learning online. Challenges and opportunities in a first year undergraduate course.

Outline

As tertiary courses in New Zealand increasingly offer learning online in face-to-face courses, new opportunities become available for flexible learning and teaching. However, many staff appreciate support when they review the course design and investigate how tools, potentially new to them and their students, can enhance learning and flexibility. In collaboration with two teachers in a first-year undergraduate course, the course and assessment demands were identified to then consider how to integrate more flexibility for Māori and non-Māori students by using online affordances or qualities. In response, an in(ter)vention with online resources was developed.

Educational Design Research supported this collaboration and complements the principles of kaupapa Māori, which guided the study. Research instruments with students included questionnaires and focus groups; conversations and reflections were used with staff. The paper includes some key findings, firstly how affordances can contribute to students learning experience and secondly, some of the considerations and tools to enhance a design for blended learning and facilitate in this space. One example is an explicit plan of how and when certain affordances or qualities of blended learning are supposed to support students learning in a course design for flexible and active learning.

Introduction

Through the pandemic, the combination of online with face-to-face learning has become a normal occurrence in many institutions, yet, teachers can be unsure how to amend their educational practices and integrate online in a meaningful way. This paper reports of one part in a study that took place in a first-year undergraduate course in the Bachelor of Teaching (ECE) at a New Zealand tertiary institution. The teachers in the first-year undergraduate course were interested to achieve increased flexibility in when and how students learn and wanted to respond to institutional policy changes for more online learning outside the classroom. The teachers were concerned by how the students applied digital information literacy (DIL) in their ePortfolio assessment and how the students’ digital literacies could be improved. Therefore, the research investigated how online affordances could be used as part of an in(ter)vention to achieve these goals. As suggested by one of my Māori colleagues who supported the study, I use the term in(ter)vention, firstly to diminish negative connotations of deficit associated with the word intervention, a concept which as such does not exist in the Māori world, and secondly, to recognise that the four resources were part of an innovative response to real-world issues.

Different definitions and categories exist for affordances (Conole, 2016). As a common element, the concept of affordances emphasizes the interplay between the characteristics of components and the preferences of people who use these
(Conole, 2016; Conole & Dyke, 2004). This interrelationship should influence how teachers design blended learning (Conole, 2016) and is therefore important when teachers consider how to integrate online learning into courses that were previously face-to-face. By identifying positive characteristics of technologies and any associated constraints (Conole, 2013), this information should inform design decisions for a specific learning situation. Online tools can, for example, offer opportunities for ongoing group work and discussions or for students to address potential learning challenges and practice the application of particular practices. In short, blended learning can allow students to individualise their learning approach as Garrison and Kanuka (2004) argue.

The problem being addressed

Researchers in online learning have identified that blended learning (BL) design often lacks flexibility and misses facilitation of interaction and students’ learning progresses, perhaps due to misconceptions about enhancing learning and teaching with affordances that support flexibility and active learning (Boelens, De Wever & Voet, 2017). Similar challenges are reported by Ako Aotearoa and Synapsys (2018), for example issues in achieving programme and course design that uses the appropriate technology and offers effective learning. How to harness the potential and benefits of BL and its affordances requires ongoing development (Conole, 2013; Moskal, Dzuiban & Hartman, 2013). Otherwise, increased online learning can result in course sites with static resources.

To move from an online repository, where resources are solely available for students to read, with a focus on acquisition, requires a design that is based on what students do to learn and actively engages them (Biggs & Tang, 2011, Mayes & de Freitas, 2013) rather than being told what to read. Even digital-savvy teachers can be unsure how to best achieve flexible, active learning that is aligned with the course outcomes and supports students study success appropriately. The research was set up to find out how to use online affordances to increase active learning of DIL outside the classroom in an undergraduate course, with the aim of supporting Māori and non-Māori students with the ePortfolio assessment.

Study design/Approach

Educational Design Research (EDR) invites a phased, structured and reflective approach, is theory informed and aims at designing real-life interventions (Plomp, 2013). The research was conducted through a three phase model, informed by Plomp (2013) and included preliminary research, development and evaluation phase (Figure 1). Kaupapa Māori as part of the methodological approach has helped during the research to ensure the maintenance of cultural integrity (Pihama, 2010) with guidance in how to research with Māori and non-Māori in an appropriate and culturally safe way through being guided by Cram’s (2001) Kaupapa Māori researcher guidelines and L. T. Smith (2012) cultural values. Thirteen students and two teachers participated in the study during 2016. Students shared their thoughts through initial and final questionnaires and initial foci groups; teachers through initial questionnaire and interviews, reflective prompts, emails and a final interview.
Figure 1: Overview of the three research phases in this study.
Various steps were taken to investigate the main research question *How can teachers design blended learning for first-year undergraduate students to acquire digital information literacy*. These included identifying the existing course design, challenges and resources, consulting, drafting, responding to feedback based on communication, relationships and ongoing collaboration. Feedback from Māori staff and colleagues helped to fine-tune the in(ter)vention.

The resources offered students opportunities to apply, practice and reflect upon using digital information literacy (DIL) in situations where they are required to create new information, as advised by Hugh, Bruce and Edwards (2007). The four customised resources were situated in the course demands and were available for the students on the course web page. The resources included:

1. **Process: How do I use information to develop an ePortfolio?**
   
   Students familiarise themselves with the visualised six step process (Figure 2) and reflect through questions what each step means for their course work and the ePortfolio.

2. **Scenario**
   
   Students apply the six-step process and receive automated feedback on decisions made. They proceed with DIL practices in an ECE situation to create an entry in their ePortfolio.

3. **Quiz**
   
   A quiz with formative feedback to practice DIL for the ePortfolio.

4. **The process as one-pager with reflective pop-up questions.**
Findings

The design intentions for all resources were to provide flexibility in learning, practice, reflection and feedback opportunities through online affordances. The growing flexibility and independence of studying online can be difficult for students to manage so it was of interest how these affordances can scaffold learning. By using screenshots, step-by-step instructions and structured reflective elements to support self-assessment, the study aimed to offer comprehensive support if needed in this first-year course. Both teachers reconfirmed during the study that they appreciated the online affordances of the resources on an otherwise mostly static course site but they were unsure if one affordance had been more useful than others to increase flexibility and active learning for students.

Although the resource design was based on pedagogically sound principles and addressed the identified need according to both teachers, little data exists to understand how a particular affordance such as the automated feedback was useful for Māori and non-Māori students. Compared to the resources with practice opportunities, online interactivity and formative feedback, the fourth, printable resource which was a summary of the underpinning process, was evaluated as most useful by Teacher A at the end of the study. This was surprising for several reasons. Firstly, the teachers reconfirmed how they appreciated the online affordances of the resources throughout the study. Secondly, Teacher A and Teacher B supported the intention behind the resources of the in(ter)vention as to
enable personalised, flexible learning and differentiated facilitation as recommended by Boelens et al. (2017), and Teacher A was very interested to create resources for such a purpose in the near future. It raises the question of how the teachers perceived the value of online features, although the teachers' responses may have been based on students' requests.

Teacher B reported anecdotal feedback from various students in semester 1 who found the resources helpful to learn outside the classroom and prepare their ePortfolio. At the end of semester 2, seven students gave feedback. In the closed-response questions, students replied that the online resources helped to:

- Prepare my assignment: 4
- Use the process for my ePortfolio: 3
- To work with the teacher in the classroom: 3
- Study independently: 3

**Discussion and conclusion**

The content of the four online resources was situated in early childhood education and aligned with the learning to be achieved, focused on practices that students required for ePortfolio assessment, and targeted areas that teachers and students had identified as troublesome. This close alignment helped to ensure the relevance of the resource content, to determine the type of learning required and identify which affordances could be used to enhance students' learning. Through the literature review I had identified some positive affordances of the technologies and some associated constraints to inform the design decisions as recommended by Conole (2013).

The resources used online affordances to offer active learning away from the classroom for developing DIL. They were designed to provide initial advice with reflective questions to consider, to apply in a situation and correct through automated feedback. The Moodle resources Quiz and Lesson offered unlimited practice opportunities and automated feedback for students to experience timely formative “feedback during learning” as “the most powerful enhancement to learning” (Biggs & Tang, 2011, p. 97). Through online affordances, such feedback was achieved without adding to teachers marking time which can be a strong barrier to providing formative feedback (Feekery, 2013). The resources utilised automated feedback and unlimited practice opportunities to enable effective learning and teaching strategies online as recommended for Māori learners in the classroom by Curtis et al. (2011) and Sciascia and Aguayo (2016).

All learning resources supported flexible learning with reflective questions and prompts. These technical affordances can be used to scaffold self-assessment, and active learning, and to encourage students to practise and learn independently. Therefore, they afford strategies that have been identified to support the learning of Māori (Curtis et al., 2011; NZCER, 2004; Sciascia & Aguayo, 2016) and of non-Māori students (Conole, 2013, 2016; Hattie, 2008). Some of the students confirmed in their feedback that the online resources have assisted with preparing for assessment tasks. This seems to indicate that the resources offered some scaffolding to students to develop independence as suggested by Churchill, King, Webster and Fox (2013) and Curtis et al. (2011).
Students’ responses seem to indicate further that automated feedback can support independent learning skills.

The study results cannot answer the question of how online feedback as a technical quality of BL can be fully utilised to develop BL and support independent learning. The research has confirmed, though, that online affordances can provide new learning opportunities to support assessment, digital information literacy (DIL) development and flexible learning in a first-year undergraduate course. At the start of the study, the online qualities of the Moodle course website in the current study seemed to be underused, and there was potential to better design for active learning. The features of the online resources seem to have enabled the development of DIL-related practices and processes relevant for the assessment in this course and others in the ECE studies. An explicit roadmap of what students are doing to learn is recommended for designers of blended learning. Such a tool can show the connections between classroom and online learning and help to integrate online activities with the face-to-face work.

I recognise that the findings from students, in particular, are limited which is partially due to the small number of Māori and non-Māori participants in each semester. The findings are from a particular situation, a first-semester course in the Bachelor of Teaching (ECE) with two cohorts. These findings can, however, inform academic developers, course designers and teachers who consider the potential of online affordances to support flexible learning and the type of BL design to support students’ study success.

The research study confirms that further work is required in New Zealand’s tertiary institutions to increase flexible learning that focuses on what students do to learn and actively engages Māori and non-Māori students. This should include the design for and facilitation of active learning online as recommended by Ako and Synapsys (2018) and Boelens et al. (2017), and for scaffolding independent learning and integrating formative feedback (Curtis et al., 2011; Sciascai & Aguayo, 2016). The study identified examples how online affordances of LMS tools can be used to enable these practices. Teachers and other learning designers require further support to better understand how affordances can be used to design and facilitate learning for students to achieve learning outcomes. Staff capability impacts on how affordances might be designed into and applied in courses. The teachers in this research appreciated the ongoing nature of combined capability building and course development over two semesters. Ongoing institutional technical and pedagogical support to staff is required but should be complemented by multiple ways of engaging teachers as Dyke, Conole, Ravenscroft and de Freitas (2007) emphasise – that allow teaching staff to experiment and experience, through social interactions, conversations and by thinking and reflections.
References


Natlia Kurikova. POSTER: When teaching online is not an emergency: strategies of private language tutors

Outline

The presentation demonstrates how some private educators embrace the potential of technology to provide genuinely ubiquitous, flexible learning.

In the past year, many educational institutions throughout the world were forced to transition to online or flexible delivery, in what has been described as emergency remote teaching. However, some private language tutors were not caught off guard at the time, as they had already embraced remote teaching and were offering sessions synchronously online. Learners might prefer online tutoring as an alternative to formal instruction because it is flexible, affordable and easy to access. For an instructor, transitioning to online teaching might not be easy. There are a number of complexities to navigate: besides the obvious technical aspects, establishing relationships and keeping students engaged often proves to be difficult without a shared physical space. Yet, it is possible to transcend these constraints and create learning environments that provide rich learning opportunities. Based on findings from data collected in interviews and online lesson recordings, this presentation aims to make explicit some practices of experienced online tutors, which they use to overcome the challenges of online teaching. The presentation highlights some strategies that experienced online tutors use and provides suggestions for how others might implement these strategies in their own contexts.
Larian Nkomo and Ben Daniel. POSTER: Lecture Recordings offer Students Flexible and Adaptive Learning Opportunities

Lecture recordings offer students flexible, and convenient access to learning materials, they can be used to engage and enrich students learning experience. However, educators have increasingly raised concerns that providing students access to lecture recordings would likely contribute to a decline in lecture attendance and ultimately, poor learning outcomes. This study explored how students engage with lecture recordings and the extent to which access to these resources contributes to an enhanced learning experience. We administered self-reported measures (questionnaire) to undergraduate and postgraduate students (n=660) who had access to lecture recordings. The questionnaire’s items included both closed-ended and open-ended questions. The quantitative data were analysed and summarised using descriptive statistics. We then applied a sentiment analysis, a Natural Language Processing technique (NLP) to triangulate the results derived from the quantitative analysis. Overall, the results indicate that lecture recordings can provide students with flexibility and convenient access to learning materials, and ultimately enhancing their learning experience. Students reported that they used lecture recordings for revision, preparation for exams and comparing notes taken in class. Respondents in the study said they consider lecture recording as supplementary learning resources, rather than replacement for live lectures. The availability of lecture recordings did not influence their decisions to attend lectures. This study adds to the growing need to examine the role of institutional digital technologies in supporting flexible access to learning.
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