

Using UDL to redesign face-to-face, large class modules for the online, asynchronous environment

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Abstract

Following an initial emergency response to the Covid-19 crisis in March 2020, the higher education sector commenced planning for an extended period of remote teaching for the academic year 2020/2021. Such planning in Dublin City University (DCU) included the development of guidelines for hybrid learning, providing professional development opportunities for academic staff and redesigning programmes for hybrid and online learning contexts. In this context, it was necessary to redesign two face-to-face synchronous, 5-credit modules in religious education on the Bachelor of Education programme, each module comprising 400 students, into engaging, asynchronous, online formats. This paper explores the redesign of these modules with a particular focus on how the principles of Universal Design for Learning (UDL) informed the transformation of the modules for an asynchronous online learning environment.

Keywords: *online learning; Universal Design for Learning (UDL); asynchronous; presence, COVID-19; e-portfolio. Large class*

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1. Introduction

This paper explores the redesign of two face-to-face synchronous five-credit modules in religious education on the Bachelor (Hons) of Education (BEd) programme at Dublin City University (DCU) for an asynchronous online learning environment as part of the initial emergency response to the Covid-19 crisis. This paper will: [1] offer an account of the teaching and learning context of the modules, [2] review literature in the area of large classes, online teaching and Universal Design for Learning (UDL), and [3] provide an account of the redesign modules using the UDL guidelines.

2. Description of the Teaching/ Learning Context

The concurrent four-year BEd primary teaching degree at DCU Institute of Education is one of the largest cohorts in the university, but also one of the larger ITE programmes funded by the State in Ireland (Sahlberg, 2019) with an intake of over 400 students each year. Following an initial emergency response to the Covid-19 crisis in March 2020, DCU developed guidelines for hybrid learning; provided professional development opportunities for academic staff; and supported the redesign of programmes and modules for hybrid and online learning contexts. In this context, it was necessary to redesign two face-to-face synchronous 5-credit modules in religious education on the BEd programme, into engaging, asynchronous, online formats.

Prior to the Covid-19 crisis, the modules were organised in a traditional face-to-face synchronous fashion with a plenary lectures in large lecture halls, and some small group seminars (30 students). The seminars involved significant active-learning by way of practical engagement with the *Catholic Preschool and Primary School Religious Education Curriculum for Ireland* (2015; hereafter *CPPREC*) and its corresponding programme *Grow in Love* (Veritas Publications, 2015-2019). Students were required to submit a traditional academic written essay at the end of semester for both modules. The size of the cohort and the practical character of seminar sessions presented a challenge for moving the modules online, augmented by the fact that the modules were not allocated synchronous teaching slots by the faculty.

3. Literature Review

Literature on teaching large classes in HE is typified by the challenges associated with the context (Allais, 2014); the dominance of the knowledge-banking dynamic (Stoerger & Kreiger, 2016); and the hindering of student performance (Hornsby & Osman 2014). The issue of presence and connection in the large class context is often questioned by teachers (Auslander, 2000; Cole & Kosci, 2010) and students (Arvanitakis, 2014; Cuseo, 2007) who

find themselves isolated and disconnected. The quality of education and student experience are, as Hornsby and Osman (2014) highlight, the pedagogical aspects that are most affected by class scale. The size of a large class can often lead to a view that options for assessment are limited (Kerr, 2011) and that “continuous assessment is not manageable” (Farrell et al., 2021, p.31). Validity is often cast aside for the sake of reliability (Snowball & Boughey, 2012), i.e. multiple choice questions as the exclusive assessment method. Amid the Covid-19 crisis, each of these challenges came into greater focus.

Dunlap and Lowenthal (2018) found that “...the highest number of recommendations shared by experienced online educators fell into the ‘presence’ theme...” (p.84). Teaching presence is defined by Anderson et al., (2001) as “the design, facilitation and direct instruction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes” (p.5). Meaning-making by way of sustained dialogue is the primary concern of cognitive presence, whereas, social presence is ultimately concerned with “the projection of oneself as a real person within the online environment” (Ní Shé et al., 2019). Finally, teaching presence is accomplished by way of the design of learning environments, corresponding activities and the accommodation of the intersections betwixt and between these three presences (Ní Shé et al., 2019). In taking account of the recent pivot to online teaching, Buckley et al. (2021) suggest that these presences are key pedagogical elements to be considered in terms of the “provision of opportunity for student interaction and engagement in the convergence of the large class and online contexts” (p.5). In coordinating an online course, cultivating a sense of a learning community can assist in meeting the needs of students who may feel isolated in an online teaching context (Dunlap & Lowenthal, 2018).

UDL offers guidelines for curriculum development that are informed by three principles: [1] multiple means of engagement – “stimulate motivation and sustained enthusiasm for learning by promoting various ways of engaging with material”, [2] multiple means of representation – “present information and content in a variety of ways to support understanding by students with different learning styles/abilities”, and [3] multiple means of action and expression – “offer options for students to demonstrate their learning in various ways, e.g. allow choice of assessment type” (CAST, 2018). These principles serve as a guide to professional practice to ensure equity of learning for all students, enhancing and enriching the educational experience of all students by integrating flexible methods of teaching, assessment and service provision.

4. Reflection on Practice

In redesigning my modules for the online environment key principles for good practice in technology enhanced education were followed (Ní Shé et al., 2019): [1] encourage student-

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faculty contact, [2] encourage active learning, [3] respect diverse talents and ways of learning (Gorsky & Blau, 2009), and framed by the principles of UDL. The concept of 'presence' was of principal importance to the effective transformation of the modules (Anderson et al. 2001; Dunlap & Lowenthal, 2018; Feng et al. 2017; Garrison et al. 1999; Trammel & LaForge, 2017). It was essential to take a holistic approach (Delors, 1996) ensuring that students were enabled to participate in authentic learning moments or educational 'happenings' (Aldridge, 2017), events in which students encountered and actively learned something new as opposed to merely completing a task.

4.1. Multiple Means of Engagement

Guided by the UDL principle of multiple means of engagement (CAST, 2018), the asynchronous nature of the module allowed for flexibility in terms of students engagement with course content. In order to motivate and encourage student participation, a module handbook was created for each of the Moodle) module pages containing all of the necessary information for students to successfully participate including module navigation information, learning outcomes; assessment brief; reading list; and conditions of the lecture-tutor relationship, i.e. expectations of students and faculty, and communication procedures.

Clarity in communication supported students in transitioning to an asynchronous environment encouraging meaningful engagement with the module content (Dunlap & Lowenthal, 2018; Edwards et al., 2011). 'Presence' was a central component in the module redesign (Buckley et al., 2021; Dunlap and Lowenthal, 2018). Each chapter of the module book, alongside any text-based content, contained a pre-recorded video wherein I spoke to students providing further explication of key points and direction in terms of successfully engaging with the module content. These videos contributed to the building up of both social and teacher presences (Baran et al., 2011; Dunlap & Lowenthal, 2018; Guasch et al., 2010; Smits & Voogt, 2017; Trammell & LaForge, 2017).

4.2. Multiple Means of Representation

Moodle books were created for each lecture topic, providing structure, consistency, ease of content access and clarity around associated tasks (Dunlap & Lowenthal, 2018). Pre-recorded videos were utilised for general announcements embedded alongside textual announcement, to ensure that module content was available in multiple formats (CAST, 2018) and contributed significantly to the establishment of relationships between students and lecturer (Dunlap & Lowenthal, 2018; Gorsky & Blau, 2009; Trammel & LaForge, 2017). Guided by the UDL principle of multiple means of representation (CAST, 2018), all content was accessible in multiple formats – video, texted-based, audio etc. (CAST, 2018). The need to ensure that content was available in multiple formats was heightened as the cohort included students following the Irish Sign Language (ISL) pathway in the BEd s.

Video and audio content required translation by ISL interpreters or, at the very least, the use of captions. By offering course content in multiple formats, a personalised learning experience was created for students within which their diverse talents and ways of learning were being actively respected (Gorsky & Blau, 2009).

Redesigning the seminars posed the greatest challenge. In reimagining this synchronous format for an asynchronous context learning technologies such as, H5P, discussion forums, quizzes and Zoom recordings were utilised (Carril et al, 2013). The redesigned seminars began with a pre-recorded video of a conversation between members of the Religious Education faculty around a specific seminar topic, further reinforcing the social and teacher presence in the module (Baran et al., 2011; Dunlap & Lowenthal, 2018; Guasch et al., 2010; Smits & Voogt, 2017; Trammell & LaForge, 2017), as well as ensuring students encountered a diversity of voice (CAST, 2018). To facilitate active learning in the seminars, students engaged with necessary content by way of interactive H5P presentations.

Peer-to-peer engagement and feedback was reimagined by way of interactive H5P presentations and student discussion forums (Mbaty & Minnaar, 2015; Smits & Voogt, 2017). Each H5P presentation ended with a task that required students to engage with content from either the *CPPREC* (2015) or *Grow in Love* (Veritas Publications, 2015-2019) and post their insights on Moodle discussion forum monitored by faculty. This created a degree of spontaneity accommodating the hermeneutical movement from knowledge to understanding by deepening the relationships between members of the online learning community by way of dialogical or conversational interaction (Baran et al., 2011; Dunlap & Lowenthal, 2018; Guasch et al., 2010; Smits & Voogt, 2017; Trammell & LaForge, 2017).

To further enhance social and teacher presence as well as diversity of voice within the module (CAST, 2018), podcasts with various professionals from the area of religious education were recorded and made available on Moodle.

4.3. Multiple Means of Action and Expression

The traditional end-of-semester essay was transformed into a three-part continuous assessment motivated by the desire to further enhance student agency, ownership and understanding of the module content (CAST, 2018). Students created personal e-portfolios containing two critical reflections that focused on two to three artefacts from the course content and one meta-reflection on their learning journey. Embedding choice enhanced student-agency as students could utilise various media formats, i.e. text-based content, audio, video etc., within their portfolios. A detailed rubric was made available at the beginning of semester which provided transparency in assessment process. Guided by the UDL principles, students were awarded marks not only for content knowledge and depth of

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reflection, but also for creativity, design and innovative use of ICT (CAST, 2018; Donaldson, 2018).

4.4. Conclusion

The redesign of the modules was, for the most part, successful in terms of meeting the needs of large cohorts. It would be disingenuous, however, if it was not made explicit that the redesign and co-ordination did cause increased workload, encountered predominately at the developmental stage of the modules, i.e. during the redesign process. Once the modules were up and running, the workload became more manageable. Student feedback indicates that they were satisfied with the modules but that a blended or hybrid approach would be more appropriate to their specific needs, aligning with the insights evident in the literature (Farrell et al., 2021; Ní Shé et al, 2019). While teaching online is certainly different (Ní Shé et al, 2019), many practices are transferable to the face-to-face environment. Aspects of the redesigned modules will be retained if there is a return to face-to-face delivery. The opportunities for novel learning moments offered by the use of interactive H5P, podcasts and reflection-based assessment methods should be embraced by academics teaching large classes, especially if they wish to move beyond the view that a limited traditional lecture-style pedagogical approach is the only viable teaching method for large classes environment (Farrell et al., 2021). Utilizing the principles of UDL as a frame of reference for pedagogical redesign was important as the students and I were unfamiliar with the experience of asynchronous teaching and learning.

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