Pedagogy for Higher Education Large Classes

(PHELC)

Proceedings of the Second PHELC Symposium
Online Event, 2 June 2020

Editors:
Ann Marie Farrell and Dr. Anna Logan

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Introduction

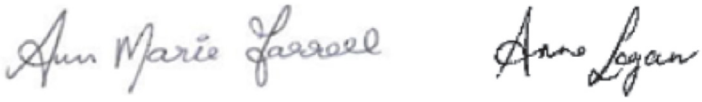
Welcome to the second publication of PHELC symposium proceedings. Originally, it was intended to hold the PHELC 2020 Symposium on 2 June in the Universitat Politècnica de València as a pre-conference event collocated with the Higher Education Advances (HEAd) Conference, as had been the case in 2019. However, due to the Covid-19 pandemic we made the decision to move the event online in collaboration with the HEAd'20 conference committee.

After the first PHELC event in 2019, the energy at the event itself and the level of engagement with the proceedings in the months afterwards led us to consider establishing PHELC on a more long-term basis. It became obvious to us that there was potential and demand for the establishment of a community of practice for those teaching large classes in higher education contexts. We applied to run a pre-conference event collocated with the HEAd'20 Conference once again this year and we have developed our website. We are continuing to plan for the development of PHELC as we move into an arguably more uncertain future due to the international crisis caused by Covid-19.

This year, PHELC enjoyed the company and collegiality of 33 participants from ten countries. Initially, when this year's event was planned, we intended to focus on *assessment* for large classes; hence, that is the focus of the paper presentations in these proceedings. However, the workshop / discussion element of the symposium was amended to allow for exploration of the recent transition of large face-to-face classes to the online environment. The impact on teaching and learning as well as assessment was discussed; the outcome of that discussion is provided herein. We were also privileged to have two eminent keynote speakers for the event this year – Prof. David Carless (University of Hong Kong) and Prof. David Hornsby (Carleton University, Canada). Their presentations set the tone for the entire symposium and we are grateful for their generous participation.

Moving PHELC online was challenging and we very much missed the friendly socialising aspect of the HEAd Conference in beautiful Valencia. However, the virtual platform allowed access to people who may not have been able to attend the event in a face-to-face context and this is something we will consider as we move forward with PHELC … and we managed to build in the social element albeit from a distance.

It is our intention to broaden our reach over the next twelve months via other events. However, we still hope to be in Valencia in 2021 if we are accepted to host a pre-conference event next year. And, we would like to take this opportunity to sincerely thank Raúl, Josep and Elena of the HEAd'20 Conference committee for their support, guidance and kindness as we navigated transitioning PHELC online; all three have become our friends as well as our colleagues.



Ann Marie Farrell and Dr. Anna Logan
Editors

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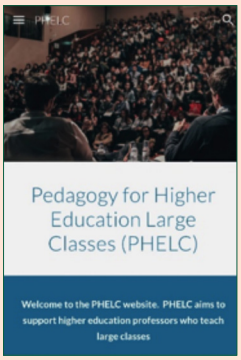
Symposium Participants

Name	Higher Education Institution
Dr. Prof. Marta Elena Alonso de la Varga	University of León, Spain
Marese Bermingham	Cork Institute of Technology, Ireland
Karen Buckley	Dublin City University, Ireland
Dr. Sebastián Cánovas Barnabé	University of Murcia, Spain
William Carey	Cork Institute of Technology, Ireland
Prof. David Carless	University of Hong Kong
Danny Carroll	University of New South Wales, Sydney, Australia
Dr. Tara Concannon-Gibney	Dublin City University, Ireland
Prof. Regina Connolly	Dublin City University, Ireland
Dr. Erika Corradini	University of Southampton, UK
Dr. Laura Costelloe	Mary Immaculate College, Limerick, Ireland
Carlos De la Calle Arroyo	Universidad de Castilla-La Mancha, Spain
Dr. Elena De la Poza	Universitat Politècnica de València, Spain
Dr. Ana Carmen Diaz Mendoza	University of La Rioja, Spain
Dr. Josep Domenech	Universitat Politècnica de València, Spain
Ann Marie Farrell	Dublin City University, Ireland
Fiona Giblin	Dublin City University, Ireland
Dr. Tanja Glusac	Curtin University, Perth, Australia
Dr. Mark Glynn	Dublin City University, Ireland
Dr. Claire Griffin	Mary Immaculate College, Limerick, Ireland
Prof. David Hornsby	Carleton University, Ottawa, Canada
Dr. Johannes Lang	Justus-Liebig-University, Germany
Dorothy Tao Li	The University of Hong Kong
Bart Lievens	Artevelde University of Applied Sciences, Ghent, Belgium
Dr. Anna Logan	Dublin City University, Ireland
Dr. Rosin Lyons	Dublin City University, Ireland
Dr. Viola Manokore	NorQuest College, Edmonton, Canada
Dr. Siobhain McGovern	Dublin City University, Ireland
Catherine Murphy	Cork Institute of Technology, Ireland
Dr. Raúl Peña-Ortiz	Universitat de València, Spain.
Dr. Justin Rami	Dublin City University, Ireland
Suzanne Stone	Dublin City University, Ireland
Peter Thaysen	SmartLearning, India



Pedagogy for Higher Education Large Classes (PHELC)

Co-located with Higher Education Advances (HEAd) Conference
2 June 2020

Facilitated by Dr Anna Logan and Ann Marie Farrell, Dublin City University

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Please check your local time equivalent (timeanddate.com may be useful)

PHELC Programme: Theme 2020 – Assessment for Large Classes

10.45-11.00 (Irish/British Standard Time) 11.45-12.00 (Central European Time) 17.45-18.00 (Hong Kong Time) 05.45-06.00 (Eastern Daylight Time) 19.45-20.00 (Australian Eastern Std Time)	**Log on / Registration**
11.00-11.15 (Irish/British Standard Time) 12.00-12.15 (Central European Time) 18.00-18.15 (Hong Kong Time) 06.00-06.15 (Eastern Daylight Time) 20.00-20.15 (Australian Eastern Std Time)	**Welcome: Introduction to workshop content and participants** Ann Marie Farrell & Anna Logan, Dublin City University
11.15–11.45 (Irish/British Standard Time) 12.15-12.45 (Central European Time) 18.15-18.45 (Hong Kong Time) 06.15-06.45 (Eastern Daylight Time) 20.15-20.45 (Australian Eastern Std Time)	**Keynote 1** **Prof. David Carless, University of Hong Kong** *Assessment and Feedback for Large Classes*
11.45-12.30 (Irish/British Standard Time) 12.45-13.30 (Central European Time) 18.45-19.30 (Hong Kong Time) 06.45-07.30 (Eastern Daylight Time) 20.45-21.30 (Australian Eastern Std Time)	**Paper Presentations (10 minutes per paper)** **Dr. Claire Griffin, Mary Immaculate College, Limerick, Ireland.** *Student Engagement and Assessment: Promoting Student Learning across All Levels of Bloom's Revised Taxonomy* **Danny Carroll, University of New South Wales, Australia.** *Assessment for learning at scale at UNSW Sydney.* **Dr. Justin Rami & Dr. Francesca Lorenzi, Dublin City University, Ireland.** *Pedagogical dialogue and feedforward with large classes in a teacher education programme in Ireland* **Q&A for all presenters (last 15 minutes)**
12.30-13.00 (Irish/British Standard Time) 13.30-14.00 (Central European Time) 19.30-20.00 (Hong Kong Time) 07.30-08.00 (Eastern Daylight Time) 21.30-22.00 (Australian Eastern Std Time)	**Coffee Break & Wheel of Fortune (prizes)**
13.00-13.30 (Irish/British Standard Time) 14.00-14.30 (Central European Time) 20.00-20.30 (Hong Kong Time) 08.00-08.30 (Eastern Daylight Time) 22.00-22.30 (Australian Eastern Std Time)	**Keynote 2** **Prof. David J Hornsby, Carleton University, Ottawa, Canada.** *Moving Large Classes Online: Implications for Assessment, Teaching and Learning*
13.30-14.30 (Irish/British Standard Time) 14.30-15.30 (Central European Time) 20.30-21.30 (Hong Kong Time) 08.30-09.30 (Eastern Daylight Time) 22.30-23.00 (Australian Eastern Std Time)	**World Cafe roundtable discussion (rotating breakout rooms):** *Pivoting Large Class Pedagogy Online (Assessment, Teaching, Learning)*
14.30-14.45 (Irish/British Standard Time) 15.30-15.45 (Central European Time) 21.30-21.45 (Hong Kong Time) 09.30-09.45 (Eastern Daylight Time) 23.00-23.45 (Australian Eastern Std Time)	**Plenary discussion**: *Discussion, conclusions and suggestions for future PHELC events*
14.45 …. (Irish/British Standard Time) 15.45 …. (Central European Time) 21.45 …. (Hong Kong Time) 09.45 …. (Eastern Daylight Time) 23.45 …. (Australian Eastern Std Time)	**Social Event** *More spot prizes. Chat.* *Some sparkling drinks to celebrate the second PHELC symposium*

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Student engagement and assessment: promoting student learning across all levels of Bloom's revised taxonomy

Claire Griffin
Department of Educational Psychology, Inclusive and Special Education, Mary Immaculate College, Limerick, Ireland.

Abstract

This article seeks to report on the design, delivery and assessment of a first year undergraduate module in developmental psychology, as delivered by one lecturer to a large cohort of over 400 students undertaking an initial teacher education programme in an Irish university. In designing the module, the lecturer sought to place particular emphasis on promoting high levels of student engagement, coupled with broad levels of student learning across all domains of Bloom's Revised Taxonomy of Educational Objectives (Anderson & Krathwohl, 2001). A range of formative, summative and self-assessment strategies were employed with students across the module. Based on a review of students' online engagement, students' in-class attendance and students' performance across assessments, the strengths of the module are recognised. In particular, these relate to high levels of student engagement and broad levels of student learning across Bloom's Revised Taxonomy, with notable linkage for students between psychological theories and practice. Strengths and limitations of the module are outlined, with reference to implications for practice.

Keywords: *Developmental psychology; theory to practice; teacher education; student engagement; Bloom's revised taxonomy*

1. Introduction

In recent years, higher education has witnessed increased emphasis on the centrality of student engagement in the teaching and learning process. Underpinned by a plethora of research, student engagement in higher education is now recognised as an essential factor in predicting student learning, personal development and professional capacities (Bodnar & Clark, 2014; Carini et al., 2006). A review of the literature related to student engagement highlights the dual nature of this phenomenon. On one hand, student engagement is viewed as student-dependent; based on the extent to which students actively avail of opportunities to involve themselves in educationally-beneficial activities. In contrast, student engagement is also institution-focused, such that it is highly dependent on the extent to which institutions enable, facilitate and encourage students to engage in pedagogical material (Irish Survey of Student Engagement [ISSE], 2019). Most recently, the link between student engagement and assessment has been emphasised. Specifically, research shows that assessment practices can serve to facilitate or hinder student engagement, influencing

what and how students learn, as well as the depth of student learning (Griffin & Howard, 2017; McMahon, 2006). Holmes (2018, p. 24) argues that assessments should seek to promote "deep" approaches to learning, such that students engage with tasks meaningfully with a focus on understanding underlying theories and principles. This concept of 'deep' versus 'surface' level learning relates strongly to *Bloom's Revised Taxonomy of Educational Objectives* (Anderson & Krathwohl, 2001). This taxonomy presents a framework for aligning learning objectives, curriculum, and assessments, whereby the taxonomy moves from lower order to higher order thinking skills. These include remembering, understanding, applying, analyzing, evaluating and creating. Table 1 presents an overview of the structure of the cognitive process dimension of the revised taxonomy, as adapted from Krathwohl (2002).

Table 1. Structure of the Cognitive Process Dimension of the Revised Taxonomy, as adapted from Krathwohl (2002)

1.	Remember	Retrieving relevant knowledge from long-term memory	1.1 Recognizing 1.2 Recalling
2.	Understand	Determining the meaning of instructional messages, including oral, written, and graphic communication	2.1 Interpreting 2.2 Exemplifying 2.3 Classifying 2.4 Summarizing 2.5 Inferring 2.6 Comparing 2.7 Explaining
3.	Apply	Carrying out or using a procedure in a given situation.	3.1 Executing 3.2 Implementing
4.	Analyze	Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.	4.1 Differentiating 4.2 Organizing 4.3 Attributing
5.	Evaluate	Making judgments based on criteria and standards.	5.1 Checking 5.2 Critiquing
6.	Create	Putting elements together to form a novel, coherent whole or make an original product.	6.1 Generating 6.2 Planning 6.3 Producing

From an Irish perspective, the *Irish Survey of Student Engagement* (ISSE) now provides insight into the experiences of over 40,000 students across 27 higher education institutions in Ireland (ISSE, 2019). Based on such data, lecturers in higher education institutions are strongly encouraged to consider the organisation of curriculum, learning and assessment to facilitate student participation in meaningful activities, aimed at promoting student engagement and learning (ISSE, 2019). In light of such data and based on a host of assessment-related literature, this paper seeks to report on the design, delivery and assessment of a first year undergraduate module in developmental psychology, involving students from a four-year Bachelor of Education primary teaching programme at an Irish university. In reporting on this module, emphasis is placed on the range of formative assessment, summative assessment and self-assessment strategies

employed across the module to promote broad learning for students across all levels of Bloom's revised taxonomy (Anderson & Krathwohl, 2001).

2. Description of Teaching/Learning Context

This module was designed and delivered by one lecturer to over 400 students in the first semester of their four year initial teacher education programme. The module aimed to develop preservice teachers' understanding of children and their development, with an emphasis on the child as learner. In particular, the module aimed to provide students with an understanding of children's development from birth to early adolescence across the domains of cognitive, social and emotional development, with focus on key theories of child development. Thereafter, the module aimed to bridge the gap between theory and practice by examining the link between theoretical principles and their practical application in the classroom. In this regard, the module sought to emphasise the role of the primary school teacher in supporting the child as learner through the provision of developmentally-appropriate learning experiences. Finally, the module aimed to introduce student teachers to cutting edge research in developmental psychology, with particular emphasis on the Irish context.

This module formed a three European Credit Transfer and Accumulation System (ECTS) credit module, comprising 24 contact hours for students over a 12-week semester. This was delivered in the format of two individual 45 minute lectures to students in groups of 200, equating to a total of 48 lecture hours for one lecturer on this module. The 45 minute lecture duration was selected as per the College's policy for single lectures. Although the lectures could have been delivered collectively to the whole student cohort of over 400 students, it was anticipated that splitting the group into two groups of 200 students would allow for greater levels of lecturer-student interaction, as well as student-student interaction, during lectures. In addition to the contact hours, students were required to devote an additional three private study hours to the module weekly across the semester.

3. Assessment Strategies and Related Literature

In an effort to realise the module's learning objectives and promote student learning across all levels of Bloom's revised taxonomy (Anderson & Krathwohl, 2001), two forms of summative assessment were adopted for the module. Firstly, students were required to engage in an end of semester examination worth 40%, involving both multiple-choice questions (MCQ) and short answers. The aim of this exam was to assess students' *recall* and *understanding* of child development theory, with due regard for lower levels of Bloom's Revised Taxonomy of Educational Objectives (Anderson & Krathwohl, 2001). Thereafter, students were required to work collaboratively in groups of three to create a 'Supporting the Child as Learner' teacher booklet (worth 60% of the module). As students were new to the College, they were randomly assigned by the lecturer to these groups. The aim of this booklet was two-fold. Firstly, as students were newly enrolled in third level education, it was hoped that the collaborative nature of the project would support students' peer learning and enact one of the key learning theories in the Irish primary curriculum

i.e. social constructivism (Vygotsky, 1978). Secondly, the aim of the booklet was to promote higher levels of student learning, with reference to Bloom's revised taxonomy (Anderson & Krathwohl, 2001). Based on a clear grading rubric (see Table 2), the booklet sought to encourage students to *apply* theories of child development to classroom practice, with reference to cutting-edge research and the Irish Primary School Curriculum (Government of Ireland, 1999). Students were also required to *analyse* and *critique* key learning related to child development, such as through comparing and contrasting theories with reference to their practical application in the classroom. Overall, it was hoped that by working collaboratively with peers and discussing the practical application of theories of child development to classroom practice, students' future applied practices in the classroom would be strengthened.

Table 2. Grading Rubric: Group Teacher Booklet

Grading Rubric: Group Teacher Booklet (60%)	Poor	Average	Excellent
	0 - 3	4 – 7	8 – 10
Accuracy of information (10%) *Accurate, comprehensive understanding of psychological theories and stage of development*			
Depth of analysis/critique (10%) *Depth of analysis, with evidence of a critical viewpoint* *Compare/contrast of theories; evidence of conceptualizing, applying, analysing, synthesizing, and evaluating information*			
Application of theory to practice (10%) *Evidence-based application of theories to classroom practice*			
Linkage of psychological theories to Primary School Curriculum (10%)			
	0 -1	2-3	4-5
Use of up-to-date, supportive literature (5%) *Appropriate use of quality, up-to-date professional and/or academic literature to support analysis*			
Structure and organisation (5%) *Coherent structure and organisation; visually engaging*			
Adherence to academic conventions (5%) *Clarity & consistency of conventions for referencing*			
Appropriate inclusion of resources/supportive materials (5%) *Resources/appendices illustrate clear application of theories to practice; creative, additional research evident*			

Cognisant of the need to support students' learning and engagement across the module, a series of formative assessment and self-assessment methodologies were also incorporated into the module. Within the large lectures comprising 200 students, the lecturer employed a range of formative assessment strategies, with particular focus on Active Student Responding (ASR) techniques. Active Student Responding (ASR) encompasses a series of strategies that promote active participation of students in their

own learning (Jerome & Barbetta, 2005). Griffin and Ryan (2016) argue that by using ASR at a whole-class or group level, students' opportunities to respond in class are maximised, thereby supporting student learning, engagement and assessment. Moreover, ASR can be used pre-instruction, mid-instruction and post-instruction to assess students' learning and provide immediate feedback to both the teacher and students (Maheady et al., 2006). Examples of ASR strategies employed during the large lectures included use of response boards, action responses, think-write-pair-share and concept maps. Specifically, the lecturer typically commenced each lecture with a pre-instruction ASR strategy, conducted either on an individual or paired basis. This encouraged students to recall material from the previous lecture and make connections with ensuing learning across the lecture. Examples included posing a range of MCQ questions to students, or asking students to recall key vocabulary from previous module content, with students responding on responses boards. Thereafter, the 45 minute lecture was typically split into three to four main sections. Each section involved lecturer delivery of new material to students. This was generally supported by PowerPoint slides, with reference to applied cases from classroom or psychological practice, in addition to use of video materials. Both during and following each teaching period, students were encouraged to reflect on the new learning material, such as by creating concept maps, and/or, by engaging in think-write-pair-share activities. Students were also encouraged to relate learning to their prior experiences with children, with the aim of promoting higher-order learning and ensuring that all theoretical learning was mapped onto applied cases and practice. Finally, each lecture typically finished with use of an ASR strategy to support students to consolidate key learning. Again, this may have involved quick-fire question and answer sessions, students' documentation of five key points from the lecture, or the lecturer posing a case scenario that students had to reflect on prior to the next lecture, as informed by that week's lecture content. In addition to the in-class ASR strategies, the lecturer employed an online methodology to support student learning and assessment beyond the classroom. This involved the preparation of a range of MCQ quizzes which students accessed weekly through 'Moodle' - their online learning platform. Students were permitted to engage in the online quizzes as frequently as they wished, with instant online feedback provided to students on their performance.

4. Reflection on Findings and Implications for Practice

Following completion of the module, the lecturer reflected on student data to assess students' engagement in the module and levels of student learning. Firstly, attendance data from weekly lectures was extremely high, with an average of over 90% attendance across the module. Although students were not awarded marks for attending the module, there was potential for students to lose up to 10% of their overall marks for poor attendance. Accordingly, it was difficult to ascertain whether high module attendance was attributable to the teaching approaches and ASR strategies employed in the face-to-face lectures, or rather, a reflection of students' concerns of losing marks in light of lecture non-attendance. Nonetheless, informal feedback from students highlighted how the in-class ASR techniques were very helpful in supporting in-class engagement and learning. In particular, students noted how lecture attendance and in-class formative assessment techniques reduced the level of additional study required on lecture-based material.

Data from the online Moodle quizzes was also very high, with 95% of all students engaging repeatedly in the six online Moodle quizzes. In particular, a surge in student engagement in online quizzes was observed nearing the end of semester, whereby students appeared to use the online quizzes as an effective self-assessment strategy prior to the exam. Although exam questions were not directly copied from the online quizzes, the average student performance in the final exam was over 70%, highlighting the high level of student *recall* and *understanding* of pedagogical material across the module. In contrast, the teacher booklets demonstrated much deeper levels of student learning, whereby students demonstrated varying levels of ability to apply psychological theories to practice. In general, students' ability to critique theories and make direct links between the developmental theories and classroom practices was very strong. Group booklets also showed links made between the developmental psychology module, other pedagogical lectures and students' weekly experiences on School Placement. Notably, a number of lecturing colleagues commented on students' reference to developmental theories in other College assignments, highlighting the *application* of learning beyond the module itself.

Although the design, delivery and assessment of this module posed a range of positives, particularly for student learning, drawbacks of the module must be acknowledged. Firstly, the level of planning and background organization that was required for the module cannot be overlooked, which resulted in high lecturer workload. For example, very high levels of planning were required to ensure that weekly lecture material was accessible and engaging, with due regard for incorporating the breadth of module content, meaningful case studies, videos and ASR activities. This resulted in each lecture being very content-heavy and time-sensitive, whereby the lecturer often felt under pressure to cover all material in the short 45 minute period whilst keeping students active and engaged. In addition, high preparation was necessary on the part of the lecturer to create and upload the online MCQ questions for students to support their learning beyond lecture time. On reflection, it is questionable whether the use of more flipped classroom techniques could have been employed within the module, to increase student effort outside of class time and allow more space during lectures for reflection, discussion and higher-order learning. Previous studies have shown the benefits of this approach in teaching and learning, and the means by which it can support increased lecturer-student contact time for engagement in higher levels of Bloom's taxonomy (Gilboy, Heinerichs & Pazzaglia, 2014). Moving forward, the lecturer advocates for increased use of flipped classroom strategies in module design and subsequent delivery, to enable greater enactment of the principals of scaffolding theory; specifically, higher levels of fading of lecturer support and greater transference of responsibility to the learners (Van de Pol, Volman & Beishuizen, 2010).

Secondly, although the general standard of the 'Supporting the Child as Learner' teacher booklets was extremely high, the lack of individual student accountability within the booklet and grading rubric made it difficult for the lecturer to ascertain the division of labor across the groups. Feedback from some students noted this as an issue, whereby some group members were reported to have engaged in social loafing. This phenomenon can result in students expending less effort than their potential when working collectively than when working individually (Chidambaram & Tung, 2005). Nonetheless, the level of peer learning and enactment of social constructivism that occurred during the creation of the booklets cannot be overlooked, whereby it appeared to outweigh such issues. In the future, the lecturer advocates for some element of

individual student accountability within the formation and grading of the booklet, to ensure that students cannot 'free-ride' on other students' efforts and achievements.

On reflection, it is clear that a range of strengths and limitations have been identified with this large undergraduate module, with reference to its design, delivery and assessment. Moving forward, it is recommended that lecturers consider incorporating a range of formative assessment, summative assessment and self-assessment strategies across modules to support student engagement and broad levels of student learning in large lecture groups. Nonetheless, issues related to lecturer workload and student effort must also be considered, whereby employment of greater levels of flipped classroom activities may serve to fade lecturer support and transfer greater responsibility to students over the duration of the module (Van de Pol et al., 2010). By incorporating such strategies, assessment can serve to form a central component of the teaching and learning process, becoming a tool to support, facilitate and evaluate both surface and deep levels of learning for all (Holmes, 2018).

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Assessment for learning at scale at UNSW Sydney

Danny Carroll
Business School, University of New South Wales, Australia

Abstract

Societal expectations of Higher-Education's ability to produce work-ready graduates continues to struggle against a fundamental challenge related to the conflicting purposes of assessment as primarily a vehicle of certification or as an opportunity for learning. Assessment for learning is proposed as a powerful theory for improving learning from assessment. However numerous blockers including inadequate technological systems retard the adoption of student-centered assessment (Ibarra-Sáiz, Rodríguez-Gómez, & Boud, 2020). This article reports on a ten-year initiative using an assessment platform (REVIEW) as a technological base driving Standards Based Assessment. Use of this software has enabled assessment for learning type practices in hundreds of courses, providing beneficial learning outcomes and experience of assessment for staff and students. This paper highlights the affordances that technology platforms can provide in systematizing beneficial practices, improved assessment experiences and filling a long-standing gap between theory, policy and practice.

Keywords: *criteria-referenced assessment; self and peer-assessment; assessment for learning; assessment systems*

1. Description of Teaching/ Learning Context

This paper presents a snapshot report of use of an online, criteria-based marking system (REVIEW) used in assessments at the UNSW Business School, Sydney, Australia. The software provides academics with an easy to use, online, assessment platform for criteria-based marking and feedback. The platform enables both student self and peer assessment and this is done even in large enrolment classes. This is significant because while research has established that these practices are very beneficial, they remain poorly implemented in most LMS platforms and require time-consuming manual approaches of academics. UNSW REVIEW is extensively used for peer to peer feedback in group activity, in classes of up to 1,800 students. In 2019, 17, 837 students undertook peer feedback activity on the platform. This widespread activity promotes a culture of group accountability, development and expression of individual's judgement, and teacher's insight and confidence into the process of group work through increased transparency, even in high-enrolment subjects.

After ten years of annual usage growth, REVIEW has systematically contributed to academics' adoption of standards-based marking through their wider use of criteria-based assessment. Additionally, the increase in student self and peer assessment has contributed to a change in the student experience of assessment from a predominantly certification (of knowledge) exercise towards inclusion of judgement and skills

development. Aside from its primary role for direct assessment, REVIEW maps criteria in assessments to Degree Goals or Graduate Attributes (such as Knowledge, Teamwork or Ethics). This is done visually and through personalized reports, helping students, staff and the institution connect short and long-term outcomes of assessment.

Figure 1: REVIEW student view of Program Goal weighting in an assessment task

This connection of granular criteria and higher-order skills and attributes assists students to engage with immediate feedback while seeing the 'bigger-picture' linkage of the immediate with the graduate attributes it is linked to (Algeo, Thompson, Leigh, & Carroll, 2018).

2. Literature Review

Much research has focused on the positive role assessment can have on student learning (Hattie, & Timperley, 2007; Boud, Cohen & Sampson, 2014). Over two decades, research variously labelled assessment for learning, assessment as learning and learning centered assessment has informed and influenced educational assessment thinking (Carless, Joughin, & Mok, 2006; Boud, & Soler, 2016). Accordingly, most university assessment policies now mandate the constructive alignment of course assessments to both course and program goals. In practice however, the student experience in actual assessments remains atomistic, with little connection to ongoing development of skills or attributes (Thompson, Treleaven, Kamvounias, Beem, & Hill, 2008). For students, much assessment and feedback continues to be experienced as vague, fragmented and not particularly helpful (Boud & Soler, 2016).

Blockers to progress in assessment include institutional and bureaucratic rigidity, lack of lecturer education and support and inadequate technological resources and systems (Ibarra-Sáiz et al. 2020). Even where

institutional policies highlight the importance of assessment for learning approaches, most assessment proceeds from a certification mind-set.

Learning and assessment that engages learners in reflection and dialogic improvement, supporting the transition to learner independence has been the subject of much research (Brookfield, 1998; Dirkx, Mezirow, & Cranton, 2006). Self and peer-assessment activity are widely advanced as vehicles to reduce student passivity, drive their participation in assessment and develop beneficial self-regulatory and independent judgement processes (Brown, & Harris, 2014). However, self and peer-assessment activity remains more an occasional inclusion than a norm in most assessment (Panadero, Brown, & Strijbos, 2015). To easily provision participation in assessment and judgement processes, faculty leaders need to adopt assessment systems that systematically enable these beneficial practices (Carroll, 2016).

Finally, many students possess traditional predispositions towards dependence on teachers. This contrasts with the dominant learning paradigms (constructivism and social constructivism) and societal expectations of graduates being independent, work-ready, learners with professionally relevant skills and attributes (Litchfield, Frawley, & Nettleton, 2010). Although the widespread incorporation of active learning approaches in learning design and delivery has benefitted much teaching delivery, the same cannot be said of systemic recent advancement in assessment design. Institutionally supported platforms that systemically provide student participation in assessment, judgement and feedback practices would mark a fundamental advance in the practice of assessment.

3. Findings

A range of evidence and data is presented speaking to the REVIEW system scale of usage and observed impacts on staff and student experience of marking, feedback and development of judgement at UNSW Sydney.

3.1. Scale of REVIEW use at UNSW

From the initial three course trial in 2010, REVIEW usage has steadily grown into two major faculties at UNSW. In 2019, it was used in nearly 500 courses, with 52,848 student users and over 1,300 staff. The system ran and preserved marking and feedback on over 1000 assessment tasks and approximately 500 peer feedback exercises, mostly connected with assessable group work. Google analytics tracking data showed 1.3 million-page views by staff and students in 2019.

3.2. Examples of impact on student learning

Local qualitative studies of student engagement with criteria-based feedback and self-assessment have been generally very positive (Carroll, 2015). The affordances of online, scalable systems show that in classes of up to 1,500 students, students who undertake optional self-assessment access online feedback at higher rates than non-self-assessors. Studies of students in medium-sized courses (up to 250 students) have shown self-assessors consistently outperform non-self-assessors (Carroll, 2018). Student focus groups consistently

elicit their feedback that the 'clarity' of visual, criteria-based sliders assist them to quickly identify areas of weakness, focusing them on where response and improvement is really needed.

Figure 2: REVIEW criteria slider (after publication)

Finally, students have been observed to participate readily in peer feedback activity and comment positively on it (REVIEW at UNSW Business School).

3.3. Examples of impact on staff

Staff report that the clarity provided by criteria judgement approaches has improved their experience of marking and ability to provide focused feedback to students. This is accompanied by widespread feedback of marking efficiency, intuitive interfaces and helpful workflows (REVIEW: Academics describe marking efficiency). Further, customisations made by UNSW, including dashboards that visualize marking progress, marker averages and grade distributions support staff by making data intelligible and actionable. Another popular example of surfacing assessment data is tracking student access to published feedback, reassuring academic staff that feedback is being received and read.

4. Reflection on / analysis of implications for practice

Extensive usage of REVIEW in two faculties has contributed to both local systemic improvement in assessment for learning practices and demonstrated a path forward to meet key institutional strategic goals. These include:

- Wider uptake of criteria & rubrics in hundreds of courses
- Embedding of degree (program) goals IN assessment
- Reduction of student passivity in assessment
- Student engagement in assessment
- Contributes to university strategy for personalized student learning and 'being digital'

This project has demonstrated that changing assessment practices systemically requires the combination of institutional ability to support and sustain beneficial change, support staff in the change and maintain and expand future-oriented assessment systems that enable staff to readily implement assessment for learning practices.

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Pedagogical dialogue and feedforward with large classes in a teacher education programme in Ireland

Justin Rami, Francesca Lorenzi
Dublin City University, Ireland

Abstract

Improving the students' learning experience is closely connected with the promotion and implementation of an assessment strategy whose effectiveness relies on the quality of the formative aspect. In some contexts, such as large cohort groups there may necessarily be greater reliance on written rather than in-person feedback and this may hinder dialogue (Nicol, 2010). Assessment can promote or hinder learning and it is therefore a powerful force to be reckoned with in education. The literature on assessment makes it quite clear that assessment shapes and drives learning in powerful, though not always helpful, ways (Ramsden, 1997). This paper echoes Trigwell and Prosser's (2004) view that learning may not be hindered when teaching large classes if appropriate qualitative approaches are implemented. This challenges Cuseo's (2007) view about surface and deep learning (Marton and Säljö (1976) when teaching larges classes.

Keywords: *Pedagogical dialogue; Shared understanding; Constructivist approaches to assessment; Formative assessment; Feedforward; Sustainable assessment; Marking assessment in large classes*

1. Description of Teaching/ Learning Context

This paper presents the outcomes of the introduction of an assessment and feedback strategy within a module (unit of learning) on a Vocational Education and Training (VET)/Further Education (FE) Teaching Council approved, teacher education programme in DCUs Institute of Education in Ireland. The paper outlines how the process is informed by constructivist and dialogical principles and aimed at the development of professional competence among pre-service Further Education and Training teachers. This paper is based on research of a redesign of an assessment strategy for a module programme. The programme is delivered on a full and part-time basis Although the module learning outcomes are the same the student profiles differ quite considerably. the fulltime (daytime) students tend to be school leavers with little experience of assessment design, the part-time (evening/weekend) students tend to be post-experience adults already working as teachers or trainees mainly in the non-formal education field. For the purpose of this paper the results have been aggregated between the sample cohorts.

In previous years the module was assessed using a final summative written exam. Although pass-rates were quite high, initial research highlighted that the content of the module was not scaffolded with any

other parts of existing knowledge, therefore students were learning at a relatively surface level. That is to say that students approached the assessment in the traditional mode of memorisation without much consideration to developing their own attitudes to assessment as a teaching and learning methodology. Initial research showed us that there was an opportunity to redesign the whole module and accent the learning process more effectively. This paper brings the research up to date and highlights the concepts of dialogical assessment and feedback through a feedforward process.

2. Theoretical Framework

2.1. Feedforward or Feedback?

The term feedforward is used within this paper in the absence of an opportunity to elaborate further and deconstruct the contested nature of this terminology. In recent years much has been written about the term *feedforward* and its intended meaning is not universally accepted. The term is used here in the context of feedback loops (Sadler, 1998) and is probably more closely related to feedback spirals (Careless, 2019) which aim to enhance the dialogical process, viewing learners as agents within a socio-constructivist perspective (Carless et al. 2011). Feedback should be future-oriented (Carless 2006; Sadler 2010; Orsmond et al. 2013; Carless and Boud 2018). Handley, Price, and Millar (2011) suggest that learners frequently report frustration about the transferability of feedback to future work which can then lead to disengagement (p.893). Constructivism is at the heart of this theoretical framework both as process of shared understanding between the learner and the educator and also in the design of revised assessment and feedback framework using a fit-for-purpose constructive alignment model (Biggs, 1999). The acknowledgement of learner involvement in this process has its roots in the literature on discovery learning, knowledge creation, experiential learning and particularly from the work of people such as Piaget (1972) and Freire (1970; 1970b), all of whom helped influence the dialogical model.

John Dewey (1916, 1938) suggested that knowledge emerges only from situations in which learners have to draw them out of meaningful experiences. From these meaningful experiences feedback can be provided, accepted, taken-up, interpreted (meaning-making) and utilized by the learner in preparation for another 'loop'. Opening and closing these 'feedback loops' (Sadler, 1998) creates opportunities for the evaluative judgements (Tai et al, 2018) within the feedback process in order to use the information for future work both at generic and content specific level, this is closing the loop.

2.2. Pedagogical Dialogue and Formative Assessment

Pedagogical dialogue and formative assessment share common principles such as the emphasis on the process and the need for negotiation of meaning and shared understanding of assessment criteria (Boud, 1992; Harrington & Elander, 2003; Sambell & McDowell, 1998; Higgins, Hartley & Skelton, 2001; Norton, 2004; Price & Rust, 1999; O'Donovan, Price & Rust 2000; Rust, Price & O'Donovan, 2003). A dialogical model is drawn out of the development of the reciprocal commitment between assessors and assessees (Hyland 2000; Taras, 2001), and is based on trust (Carless, 2013). Seminal work in 2013 by David Carless and Min Yang advocated that the concept of dialogue is also rooted in the notion of social-constructivism. They

discuss three dimensions which influence the discipline of feedback and devised a 'feedback triangle' to support and articulate this model (Figure 4.) They outlined the themes within the triangle as the cognitive, social-affective and structural elements. The notion of pedagogical dialogue and feedforward/back are echoed here in this paper in the context of the social-affective dimension (Yang & Carless, 2013).

Research on formative assessment (Sadler, 1989; Juwah et al., 2004; Swinthenby et al. 2005; Chanock, 2000) stresses the importance of incorporating a feedback loop in assessment. If the loop is closed assessment becomes formative. A number of authors have advocated the encouragement of dialogue around learning and assessment as a means to enhance the formative aspect of assessment (Steen-Utheim & Foldnes, 2018; Merry et al, 2013; Careless, 2013; 2016; Juwah et al., 2004; Bryan & Clegg; 2006; Swinthenby et al, 2005; Nicol, 2010; Torrance & Pryor, 1998; 2001).

The assessment design outlined in this paper is set within the context of formative processes therefore formative assessment is at the centre of the concept of leaning - Assessment As Learning (Black & Wiliam 1998; 2006). The dominant mode of assessment in higher education focuses on summative assessment (Assessment Of Learning) which is thought by Broadbent et al. insufficient to enhance student learning (2018). These assessment practices turn into powerful pedagogical elements when used with formative and sustainable purposes.

When both are combined, a balanced use should result in a more powerful learning environment, one in which summative and formative practices are aligned, and students can have a sense that what is actually being promoted is their learning rather than simply recording their performance (e.g. grade) (Broadbent et al, 2018: p.319)

That is not to say that summative assessment does not have a role to play in the formation of formative processes. Using a multiplicity of assessment and feedback methods can only enhance the validity and reliability of the task(s) (Lalor, Rami & McNamara, 2007).

2.3 Feedback as Dialogue (Peer and Teacher)

Echoing the sentiment for this year's HEAd conference and the PHELC symposium, it is worth once again turning our attention to the concept of deep and surface learning (Biggs, 1999; Marton & Säljö, 1997; Trigwell, Prosser & Waterhouse 1999). These notions, related to deep and sustainable learning, are tied up in the concept of feedback, shared-understanding and social-constructivism. High- quality learning outcomes, such as analytical and conceptual thinking skills, may not be achieved unless students are encouraged to adopt deep approaches to learning (Filius et al , 2019: p.608). Students who take a deep approach have the intention of understanding, engaging with, operating in, and valuing the subject (ibid). The Dewey philosophy of students gaining from, and drawing learning out of *'meaningful experiences'* (1938) coupled with Sadler's *'opening and closing of feedback loops'* (1999) all support the concept of feedback within a constructivist paradigm being a dialogical process.

Feedback is dialogical when fore-fronting the relationship between assessors and assessees, as well as students and teachers' self-awareness both in personal (efficacy) and professional (competence). The

concept of dialogical feedback rests on the opportunities afforded to students to respond to and learn from feedback (Rami & Lorenzi, 2012). A dialogical feedback model places its emphasis on the process of learning and on the relationship-building capacity of the dialogical exchange through feedback practice. The extent to which education allows for meaning to emerge without imposition is all too little.

> If students are not offered the opportunity to contribute to the meaning that is generated through the teaching and learning relationship we can witness a dissociation of meaning from learning. This, therefore, suggests that active engagement with course content and feedback and reflection on learning are necessary to foster such sustainability for students aiming to become professional educators (Lorenzi & Rami, 2012: p.7)

In their study about *peer audio feedback*, Filius et al (2019) stated that peer feedback, 'can lead to a deep approach to learning and that this is triggered by three mechanisms: feeling personally committed, probing back and forth, and understanding one's own learning process' (p.617). Feedback as dialogical process can help the learner visualise what they need to do and where they need to go next. This research adopted a model that linked the closing of feedback loops to social-constructivism and embedded the learner in the process as an equal partner as part of a two-way communication process as *dialogue*. Figure 1 outlines the link between the learner, the feedback loop and the dialogic nature of the process - Dialogue as dia-logos a two-way communication process.

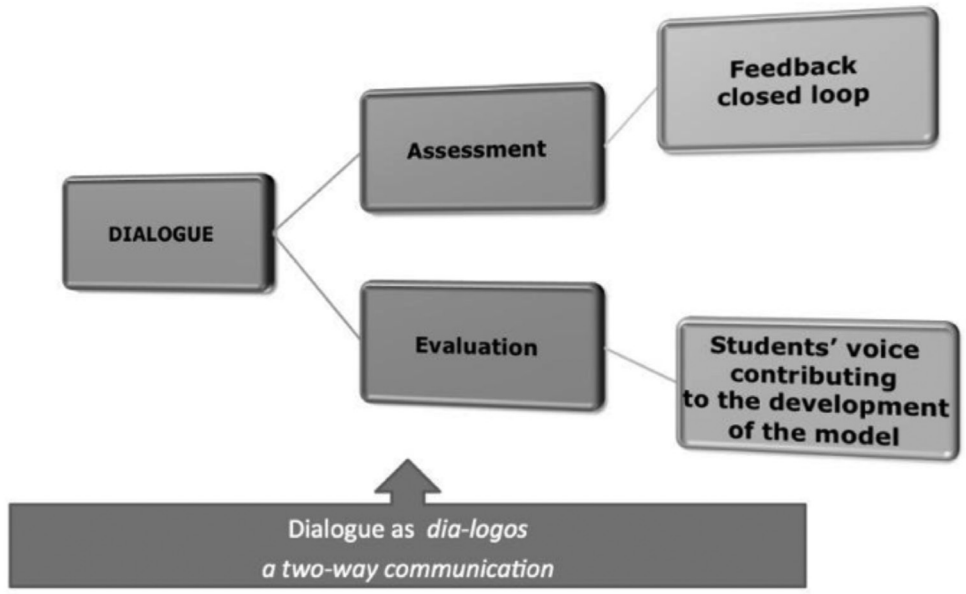

Figure 1. Dialogue as Dia-Logos

Further elaboration of the model embeds the other social-constructivist aspects as well as being deeply influenced by Freire's (1989) work on dialogue, which embeds the notion of trust, mutual respect and care which are at the heart of the dialogical process (Figure 2).

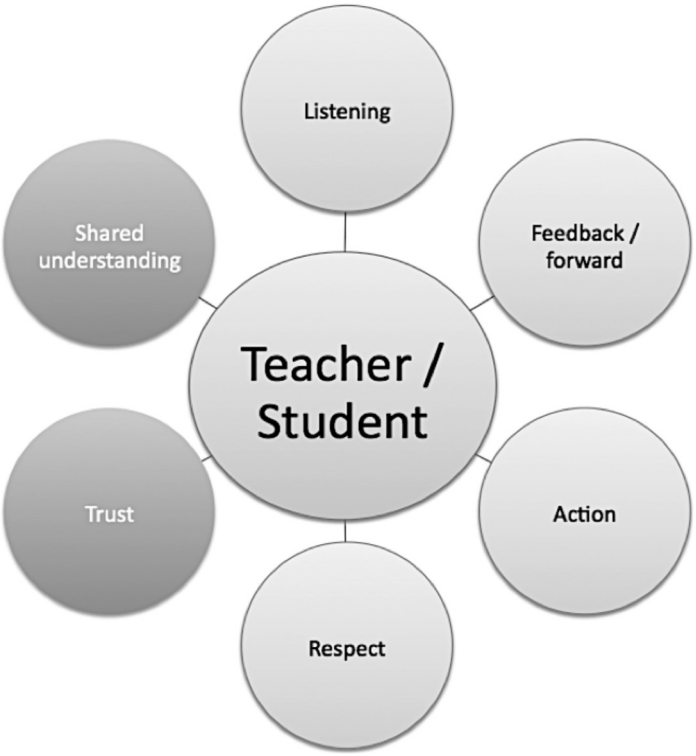

Figure 2. Dialogical feedback model

3. The Research

This study outlines a design change in the formation of an assessment and feedback framework. The collective elements of the student's assessment items are defined in the context of a portfolio. Portfolios can be thought of as a form of *embedded assessment*; that is, the assessment tasks are a part of instruction (Rami & Lorenzi, 2012). This brings deep and true meaning to the concept of assessment as a learning tool - Assessment *As* Learning (Black & Wiliam 1998).

3.1 The Development of a Dialogical Assessment and Feedback Design

The collection of staged assessments tasks were described as a portfolio and consisted of four tasks as shown in Figure 3 . The model was designed for stakeholders to experience different elements of assessment from the perspective of the teacher as well as that of the student. A dialogical cycle between assessment design and improvement of the design via responding to the feedback received, informed the design of a dialogical model in the research process. The response to feedback is a reflective exercise that encourages the student to critically consider his/her strengths and weaknesses and identify options for improvement.

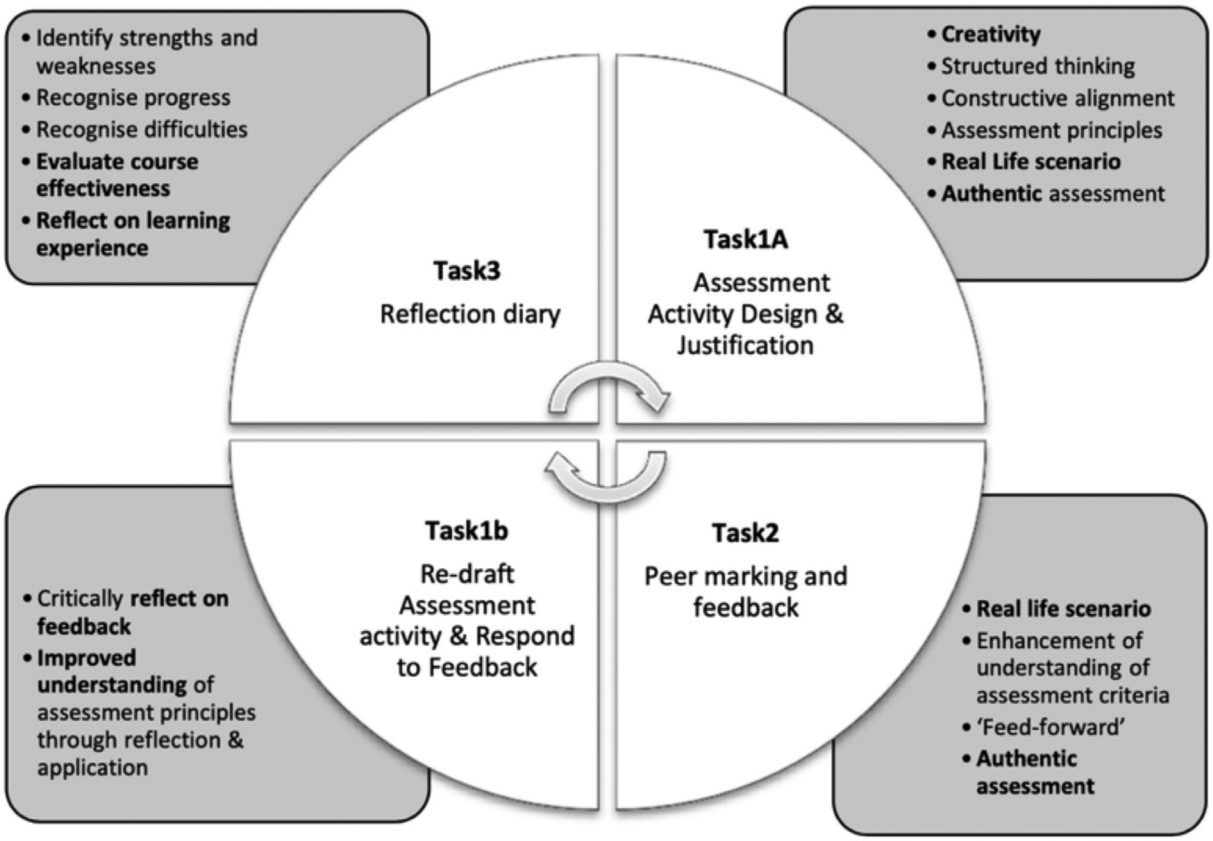

Figure 3: Assessment & feedback design

This feedback loop ensures that the 'feedback triangle' (Yang & Carless, 2013) and the 'dynamic interplay' (p.287) between its elements are activated. That is to say that the assessment and feedback loop is closed as the evaluative function of the design is also built into the model ensuring the student is part of this process. This also reflects Yang & Carless feedback triangle model (see figure 4), which includes the social, content and organisational dimensions.

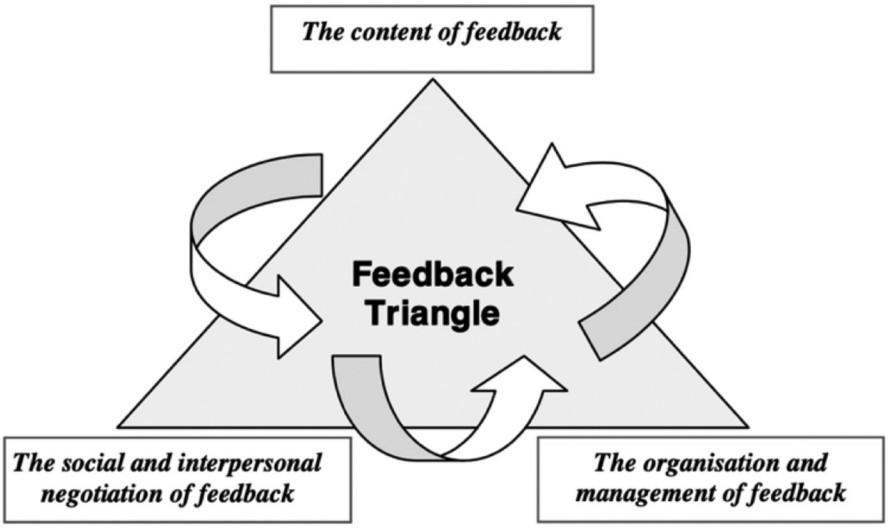

Figure 4: Feedback triangle (source: Yang & Carless, 2013: p.287)

Task 1 is subdivided into two tasks, Task 1a and Task 1b. Task 1a is the first task students complete and consists of the design of a hypothetical assessment activity for a syllabus using a potential group of hypothetical students identified by the students themselves. This task requires students to match the learning outcomes for the chosen syllabus with an assessment activity that is culturally, age and stage appropriate for their specific group of students. Students were asked to prepare guidelines, design and structure an assessment activity and specify assessment design choices, guided by specific marking criteria. This task simulates a real-life scenario (Wiggins, 1993; 1998; Darling-Hammond & Snyder, 2000) and allows students to express their creativity as well as their knowledge of assessment and feedback theory. It also raises students' awareness of key assessment concepts such as transparency, clarity, equity, fairness, constructive alignment (Biggs, 1998) and validity. By designing an assessment activity, these concepts are embedded in practice and the experience through the dialogical feedback process enables students to transfer the knowledge acquired to current and future professional contexts – i.e. as a teacher.

For Task 2, students mark and provide feedback to peers on their Task 1a. They bear the responsibility for giving useful advice and ensuring that their evaluation is fair and transparent whilst acknowledging Liu and Carless (2006) that empathy and trust are key components of the dialogical process (Värlander, 2008). This task enables students to assume a dual role at once: that of teacher and of student. In addressing the issues of large classes the process of peer assessment is also used to reduce teacher workload but to again place the model in an integrated framework of pedagogical dialogue.

Task 1b is a re-drafting activity in response to the feedback received from peers as part of Task 2. The redrafting of the assessment activity requires students to react constructively to the feedback received and to critically reflect on the advice in order to decide what changes should be made to improve the quality of the original assessment design. Task 1b is not a straightforward task. Students receiving feedback advising them on how to redraft their assessment activity are not simply asked to implement the recommendations received, but to first make a decision on the pedagogical soundness of the advice received from peers and then to implement what, on reflection, they consider appropriate. Taking on this advice can be one of the many challenges associated with peer assessment and feedback. Liu and Carless (2006) state that a productive strategy must involve, dealing sensitively with issues related to peer marking. Though peer making can help the processes of assessing and providing feedback to large classes, one must also be cognisant of the many associated challenges. Issues related to reliability, perceived expertise, power relations and time (ibid, p.285-286) all need to be considered. From the students' reflective diaries issues such as, confidence, competence and power-relations (fairness) were among some of the dominant research findings.

Finally, Task 3 is a reflection (reflective) diary in which students were asked to record, after the completion of each task, their thoughts on what they have learnt from the specific task, what difficulties they have encountered and what aspects of the tasks they felt should be improved for further development of the dialogical feedback model. At the end of the module (12 weeks) students were also asked to reflect on the module as a whole and to offer advice on improving its structure and design. Cognisant of ethical issues and considering that the reflections were contributing to the overall module mark, the reliability of the

information collected from this source could be questioned and for this reason data collected from the diary was triangulated with data collected from the questionnaire and from the analysis of performance trends in order to increase validity. Our experience has shown that reflective diaries are often completed in an either perfunctory or compliant fashion when their scope and value is not fully appreciated by students. Yet, the overall picture that emerges from the diaries, from both cohorts, is that of an honest, albeit mostly emotional, response to a challenging learning process. On the whole, the data collected from reflective diaries reconfirm the positive view expressed in relation to the learning experience in the online questionnaire, but also provide further detail to identify further specific differences between the two groups which are further discussed in other related papers.

4. Findings

The outcomes of the research led to the identification of six main findings: firstly,

- The development of a shared understanding of assessment criteria
- A shift in emphasis from assessment-product to assessment-process
- The establishment of a mutual relationship between assessors and assessees based on commitment and trust
- A heightened self-awareness both in personal (efficacy) and professional (competence) terms.
- Student implementation – utility
- Negotiation of meaning

5. Reflection on Implications for Practice

This study demonstrates that a dialogical assessment model that enables students to make sense of knowledge through reflection, professional decision-making and engagement. Furthermore, it demonstrates even with large classes, how a dialogical approach to assessment and feedback can initiate a reflective process which may equip student teachers with knowledge transferable to professional practice. The authors agree with Kopoonen et al. (2016) that a strong dialogic feedback culture, together with the developmental role of feedback, form part of future working life skills. Their importance warrants greater integration into the higher education curricula as part of the development of expertise.

This research shows that, despite the widely documented challenges posed by portfolio assessment, it can be effective in promoting deeper learning. In this research, portfolio assessment offered a framework for the acquisition of knowledge in a structured and applied fashion. Knowledge was not simply transmitted, and its acquisition verified through assessment. Students were allowed to construct a personal understanding of the topic studied through experiencing various aspects of assessment and embracing different dimensions of the teaching profession. Assessment is a powerful driving force behind many forms of learning. Because of its power over learning it is crucial to ensure that assessment promotes rather than hinders learning (Lalor, Lorenzi & Rami, 2012). Furthermore, learning should continue beyond assessment and it should

meet the needs of the present while preparing students to meet their own future learning needs (Boud, 2000, p. 151).

The implications of these findings look firstly to the learner embarking on a professional teacher education programme where the development of professional competence is at the heart of their future careers. Secondly the research proves that engagement with the curriculum drives the process of developing this competence in a structured reflective process adhering to the Liu & Carless' feedback triangle (2013). Curriculum designers within teacher education in HE could look towards this model, as its strength lies in the parallel process of learning and teaching which can lead to the holistic development of teacher professional competence. The research demonstrates providing quality and utilitarian feedback to large classes is possible through a thoughtful and balanced framework. The use of peer assessment and feedback has a dual role in both personal (efficacy) and professional (competence) terms.

Similarly, the attitudinal changes which resulted from engaging in the various tasks of the module presented opportunities for the students to reflect on the role of the teacher in assessment design. Students gained an understanding of the complexity of this role and of the importance of designing assessment approaches and feedback mechanisms that are beneficial to the student and which are mindful of the impact of such approaches on students. These experiences may also contribute to the development of trainee-teacher competence and help enable capacity building.

6. Future Research

Further development of the model seeks to increase the level of peer feedback. The possibility of enabling what Carless described a Peer feedback helpdesk (at his Masterclass at the AHE conference in Manchester in 2019), may be one possibility. For this to happen measures would need to be put in place within the curriculum for an increase in the modular content focussing on feedback literacy (Carless & Boud, 2018). The overall result of this research outlines the need for a paradigmatic shift from information to action, succinctly described by Winstone and Carless (2020) in their recent book. Lastly another recommendation for future research on the dialogical framework would be to re-examine the nature of teacher feedback, learning lessons from the use of audio feedback from Filius et al (2019). With the increase in the use of virtual tutorials and feedback sessions the next phase of the research will focus on the impact, benefits and barriers to recorded or live feedback using video as part of the dialogical process for large classes. At the heart of the theoretical framework is the learner-teacher relationship, therefore any future design of an integrated dialogical model would have to ensure that the student is part of this process and that there are shared responsibilities (Winstone et al, 2017) between the learner, the peers and the teachers for this to be an equitable process and result in a sustainable model.

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Moving large classes online: Principles for teaching, learning and assessment

David J Hornsby
Norman Paterson School of International Affairs, Carleton University, Ottawa, Canada

Abstract

When approaching the issue of large class teaching it is important to acknowledge that under normal conditions these types of learning spaces often pose significant challenges for lecturers in delivery and for students in learning. The present pandemic, COVID-19, is anything but normal and adds a complicating factor in approaching large class teaching. This is largely due to the fact that most institutions of higher education have ceased face-to-face instruction and are rapidly pivoting courses online, at least until the end of 2020.

Under normal conditions, large classes are often synonymous with a lack of student engagement, bad performance, and few opportunities to develop important skills like critical thinking (Ehrenberg et al., 2001; McKeachie, 1980; Cooper and Robinson, 2000; Mulryan-Kyne, 2010). Under conditions of online learning, the possibilities for these challenges to be compounded is real if pedagogical strategies that reinforce passive learning are adopted, or opportunities for direct contact with students are avoided, and the use of summative types of assessments are privileged.

Therefore, the purpose of this short essay is to frame and offer some principles to adopt in moving large classes online and developing assessments

Keywords: *Large Classes; Online; COVID-19; Teaching; Learning; Assessment*

1. Introduction

When approaching the issue of large class teaching it is important to acknowledge that under normal conditions these types of learning spaces often pose significant challenges for lecturers in delivery and for students in learning. The present pandemic, COVID-19, is anything but normal and adds a complicating factor in approaching large class teaching. This is largely due to the fact that most institutions of higher education have ceased face-to-face instruction and are rapidly pivoting courses online, at least until the end of 2020.

Under normal conditions, large classes are often synonymous with a lack of student engagement, bad performance, and few opportunities to develop important skills like critical thinking (Ehrenberg et al., 2001; McKeachie, 1980; Cooper and Robinson, 2000; Mulryan-Kyne, 2010). Under conditions of online learning, the possibilities for these challenges to be compounded is real if pedagogical strategies that reinforce

passive learning are adopted, or opportunities for direct contact with students are avoided, and the use of summative types of assessments are privileged. Therefore, the purpose of this short essay is to frame and offer some principles to adopt in moving large classes online and developing assessments. Before doing that, however, it is important to revisit why teaching matters and why effort should be put into making large online classes meaningful learning environments.

Despite the form and mode, the broader opportunity and social purpose of teaching in higher education continues. It is well established that university education has real material benefit to not just individuals, but to broader society as well. Societies that have more university educated citizens are better at addressing inequality and poverty, have robust and heathier populations, are committed to ensuring transformation and the establishment of just and democratic societies. University education is critical to the establishment and success of knowledge and innovation based economies (Bloom et al., 2005; OECD, 2008:4; World Bank, 2012).

Teaching also matters to students as they benefit from being inspired to take responsibility, to think differently and to develop higher order cognitive skills. Students also benefit when teaching provides coherence to disciplinary traditions and when they are given chances to develop methodologies useful in learning.

The whole underlying principle of education is to make the world a better place by fostering understanding, sharing knowledge, and capacitating future generations to dig deeper, go further and to not make the same mistakes that have been made in the past. Thus in approaching large online classes, it is important to challenge one's own perceptions of large classes and to not allow the form/size to dictate a set of pedagogical strategies adopted. Under such a frame, it is possible to argue that the problem of large classes is not embedded in the form, per se, rather in the pedagogical approaches that are chosen. Imagine the possibilities for large classes if pedagogical strategies that seek to engage students, frame and establish clear pathways for student success, and place important higher order cognitive skill development alongside the delivery of disciplinary content? It is within the power of a lecturer to organize these spaces to be meaningful experiences. Even in a context of a pandemic where most large classes are moving online.

2. Six Principles for Teaching, Learning and Assessment in Large Online Classes

Teaching and assessing under the context of the COVID-19 pandemic feels and is different from normal processes for developing and undertaking online courses. Smith and Hornsby (2020) note that the move is unique in so far as it has been swift, under resourced and done without much planning. Most universities around the world are preparing for the delivery of online education at least until the end of 2020. This includes large classes. But what are some guiding principles that can be maintained in such a moment as lecturers ponder pedagogical approaches within an online mode? Six principles are offered as provocations when considering how to develop teaching, learning and assessment strategies.

The first principle is Active Learning. Just as in face-to-face classes, active learning is often seen as the best way to address concerns over student engagement (Grunert, 1997). Students often thrive in contexts where

they can be more self-directed, work in groups of peers, engage in the course via a mix of synchronous and asynchronous events or activities. They respond well to formative assessments that get them to apply their knowledge as opposed to drawing on recall of information through summative assessments (Taras, 2005). In moving courses online it is therefore important to avoid passive teaching and assessment approaches in online spaces such as lecture capture or summative assessments. As Ira Shor (1992: 19) notes: "Passive curricula help prepare students for life in undemocratic institutions."

The second principle is equity and inclusion. It is important to acknowledge that our students are not experiencing the pandemic, the pivot online, or even just university education in a common way. Assessment strategies need to be adapted to take this fact into account. Few high stakes assessments in large classes are often the norm because it is easier to mark. But students do better when they are assessed frequently and under low stakes conditions as they can correct mistakes and seek to cheat less (Holmes, 2018).

Appreciating equity and inclusion also recognizes that it is important to integrate flexibility into completing assessments and other course material. Students will not all be in the same time zone, or equipped to cope with online spaces in the same way. Their home environments may not be evenly suitable to doing course work or students may need to be balancing work with study. All of these need to be taken into account as assessments are approached in large online courses. Adopting more asynchronous strategies for course delivery is important here.

The third principle is student success. The assessment strategies adopted in large classes matter to student success (Hornsby and De Matos Ala, 2013). Developing ways to foster incremental improvement where students can make and rectify mistakes fosters greater engagement by students; and engagement is directly linked to success. Frequent low stakes assessment can also help with understanding where students are getting stuck, enabling pedagogical adjustments to be made to ensure concepts are clarified. Feedback is also integral to student success (Carless, 2015) and needs to be carefully structured into large online classes in ways so that it does not always just fall to the lecturer. Small group work and peer learning can be particularly effective as a strategy to achieve this principle.

The fourth principle is adopting an ethos of care. Not only for yourself but for your colleagues and students too. Focusing on personalizing experience builds interpersonal dependence, bolsters confidence and drives deeper engagement for students. The importance of community in learning spaces regardless of size or mode should not be forgotten as the sense of welcome and inclusion contributes to collective well-being, whilst also bringing tangible benefits to student learning (Felten and Lambert, 2020). Think about how this would look in an online learning environment. Is it more time for assignments? Less summative assignments and more formative or the other way around? Is it online synchronous drop-ins or asynchronous discussion boards?

The fifth principle is that learning is not just about assessing for content but also about developing skills, attributes and proficiencies that are integral for citizenship. What is emphasized now will have tangible effects going forward regarding what students think is important and how best to respond. What are the types of citizen's that are needed coming out of this pandemic? Active and engaged or passive and

disinterested? Working for transformation and societal betterment or agnostic to the plight of others? These require explicit consideration and embedding in course design and assessment strategies.

Arvanitakis and Hornsby (2016) have developed a framework through which to consider attributes and proficiencies called the Citizen Scholar. It is a framework where skills inherent to scholarship and democratic citizens can be embedded in pedagogical approaches. The Citizen Scholar framework orients students towards their responsibilities as citizens in their various communities, as well as helping them be prepared for the changing nature of information and the world of work.

The sixth and final principle is pursue alternative approaches to grading. As argued earlier, assessment in large classes is already a problem. The challenge for online assessment in large classes is compounded if it is not seen as dual purpose; on the one hand to provides a measure of success in achieving the learning outcomes for the student and the professor but also to provide an opportunity to learn from mistakes. But how can this be achieved when the reality of grading in large classes is so significant?

Table 1 outlines five approaches to consider adopting either in whole or in part that can help in overcoming this challenging aspect.

Table 1: 5 Alternative grading approaches

Grading Rubrics and Likert Scales	Developing these in advance can be helpful in providing meaningful feedback for students on the basis of their response. Requires a degree of understanding of the possible range of responses possible with the assessment.
Marking Assistance	Large classes require more resources. Teaching assistants offer a chance to give students more get more detailed feedback that is so important to their continued intellectual development. Further, this lightens the load on faculty.
Learning Management System Quiz and Test Functions	Of course, this privileges summative types of assessments like multiple choice quizzes and short answers, but this is still possible to integrate as one or two assessible moments in low stakes/continuous assessment type of approach. This can be done using automation and offers a straightforward way to mark and give feedback.
Specifications Grading (Nilson, 2015)	This approach enables students to know what they need to do, in advance, to achieve a particular grade. Focus here is more on completing a set of tasks which should align with your learning outcomes
"Ungrading"	Promoted by Jesse Stommel – peer assessment and feedback, self-assessment, portfolios etc… are all options, reducing our role in the actual mechanics of grading whilst instilling important reflection skills that we know are integral to our disciplinary environments.

3. Conclusion

It is often the case that faculty worry about how to make large classes meaningful learning environments. This is only compounded as colleagues shift to online learning as a result of the present pandemic. Large classes are too often treated as spaces where passive learning techniques are practised. This serves no one and should not be treated as a stricture of form or size. The present paper has sought to argue that the way teaching, learning and assessment in large classes is approached is a matter of pedagogical choice. By

following a set of principles and strategies that emphasize active learning, equity and inclusion, student success, an ethos of care, higher order cognitive skills development and pursuing alternative approaches to grading, it is possible to have large online courses be effective spaces for learning.

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PHELC 2020: Summary of workshop output

Farrell, Ann Marie and Logan, Anna
School of Inclusive and Special Education, Institute of Education, Dublin City University.

We would like to acknowledge and thank two PHELC participants, Karen Bucklley and Fiona Giblin (Dublin City University), who generously agreed to take notes of the workshop discussion.

1. Introduction

When planning the PHELC symposium for the face-to-face context, we had intended to create small group discussion formats. However, the online platform did not easily allow for that so the workshop comprised the full group in a structured discussion focusing on the pedagogical impact of the sudden transition of large face-to-face classes online. We used the following definition of pedagogy as our guide:

> Simply put, pedagogy is about teaching and learning. It incorporates the following elements: teaching, learning, curriculum and assessment. It also concerns relationships and values. Pedagogy is fundamentally concerned with what people perceive to be meaningful, important and relevant as they engage in teaching-related activity and develop competence and expertise in a practice. Since we cannot assume what is salient to people as they engage in tasks, whether in school or work, we have to reflect on and study the way experience is organised and authorised, produced, reproduced and transformed in settings (Nind, Curtin & Hall, 2016).

We invited those that had always taught online to provide their perspective to compliment the views of those who had experienced the sudden transition to online teaching and learning. The discussion centred on the impact of transition of large classes to the online environment on (a) teaching, (b) learning, (c) assessment and (d) curriculum (time permitting). We acknowledge that these four pedagogical elements overlap and interweave with each other but to ensure we teased out the impact on each we felt it important to focus on each one individually.

We provided prompts to focus consideration of each element:

- Teaching … strategies, DL tools, structuring VLE, inclusion, accessibility, a/synchronous
- Learning … engagement, participation, learning tasks/activities, classroom community
- Assessment … summative, formative, as/of/for learning, type, feedback, peer & self-assessment, academic integrity, structure (group/individual), exemplars, criteria
- Curriculum … (re)design of modules, content, enactment, reduction, merging … [time permitting]

The following questions were posed to guide the discussion for each pedagogical element:

- What was the same about teaching large classes face-to-face and online?
- What was different about teaching large classes face-to-face and online?

- What have been the challenges of moving to teach large classes online?
- What has worked well in terms of moving to teach large classes online?
- What needs to happen now to support teaching large classes online the next academic year?

2. Transitioning large classes online: Impact on teaching

The PHELC attendees identified a range of teaching challenges when moving large face-to-face classes to the online environment:

Synchronous teaching – it was generally accepted that 'live' teaching with very large cohorts of students presented a challenge, not least when the online platform could only host smaller numbers of students. Concerns were also raised about attempts to provide synchronous teaching which mirrored exactly the length of face-to-face sessions, sometimes two hours in length which was interpreted as exhausting for both teacher and students in the large class context. However, it was also acknowledged that students appreciated, and sometimes needed, the 'live' contact with the lecturer, particularly in the large class context. Indeed, participants also highlighted their own need to see their students and the fact that they have missed their large classes over the last few months.

Organisation and structure of content – Persuading colleagues to reconceptualise content was also identified as a challenge in terms of alternative presentation in the online environment as was reorganisation/ review of the amount and nature of content. However, the swift pivot from the face-to-face to the online environment has to be taken into consideration here; there was very little time available for any real reflection in late March / early April. Some participants reported that staff in their institutions were reporting excessive amounts of time were required to develop pre-recorded lectures.

Some of the following were offered as suggestions for online planning going forward into the extended 'crisis' situation:

- Consider the balance between synchronous and asynchronous teaching from the outset.
- Avoid long periods of 'live' lectures / sessions.
- Rethink the organization and arrangement of content online; the existing arrangement may be sufficient for supporting face-to-face teaching but not so for teaching and learning in the online context.
- Consider the amount of reading material provided in lieu of face-to-face teaching.
- Plan for a variety of ways to present concepts in both synchronous and asynchronous contexts. For example:
    - Provide a short task for students to engage with asynchronously at the beginning of your timetabled session and then use the remainder of the time for a synchronous class based on that task … 'flipped' class.
    - Do not try to replace a 50-minute, face-to-face lecture with a 50-minute recording of a lecture; rather, break it up into shorter podcasts that are clear and focused.

- Consider how you can capture student voice in the large class context e.g. live chat function; anonymous Q&A platform
- Students need to see your face and hear your voice both in recorded teaching resources and when teaching synchronously.
- If providing tasks to be completed online, provide pod/screencasts to explain how to approach the task *and* to provide feedback (or feedforward) on their engagement with the task.
- Arising from the above, consider the sequence / logical flow of the materials provided from the perspective of a student.

3. Transitioning large classes online: Impact on learning

Participants identified far less challenges to learning compared to those identified for teaching, possibly because they are viewing 'learning' from the perspective of a teacher rather than a learner. The loss of a sense of community was an issue highlighted by participants and concerns were specifically raised in terms of incoming cohorts of undergraduate students in large class cohorts who will not have the opportunity to meet each other before term begins and given they are in large classes, are less likely to be on campus regularly even if a hybrid model of provision is developed. Participants also reported difficulty for students who had signed up for face-to-face programmes to suddenly navigate the totally online space and to self-manage in that context; in many cases, students were sharing space and equipment such as laptops with others (siblings, parents, friends) which hindered their availability for synchronous lectures and/or for accessing asynchronous material. Conversely, some students reported satisfaction with being off-campus because of greatly reduced travel time and the fact that online learning provided more flexibility than the requirement to be in attendance at face-to-face lectures. Some of the suggestions for practice were:

- Development of students' online literacy skills and competences through explicit education and training at university and faculty levels as well as embedded guidance in individual programmes and modules.
- Creation of a social presence online, facilitated by those teaching e.g. consideration of active learning tasks and activities which would encourage students to engage; consideration of attendance as a mechanism for social engagement; provision of options of student presence online e.g. if students do not want to turn on their cameras, perhaps they could ensure that their profile picture is available instead or make a short, introductory video.
- Following on from the point above, those teaching large class cohorts should avoid creation of 'perfect' pod/screencasts; allow imperfection to be part of the classroom environment and convey the 'real' you in the asynchronous teaching space.
- Large cohort programmes could consider developing a mentoring system for groups of 15-20 first year students, mentored by teaching staff and/or more senior students.
- Development of peer-learning groups.

- Careful structuring of assignments, both formative and summative, which explicitly encourage peer engagement.
- At a university level, clear communication with staff to put student learning at the heart of pedagogical planning supported with examples and support for staff to enable that to be manifested in reality.
- Arising from the point above, planning needs to include a map for our synchronous and asynchronous teaching roles as well as planning curricular content, student activities and assessments.

4. Transitioning large classes online: Impact on assessment

The recurring theme in the discussion around the impact of the sudden move online on assessment was the opportunity it provided to rethink assessment entirely. It was acknowledged that the speed of the transition online required academics to develop assessments quickly and that moving forward, greater consideration of assessment integrity was required. In general, participants questioned the viability of maintaining the traditional examination format in the online space with particular concerns raised about the management and ethics of invigilating examinations online.

The discussion also included reference to both formative and summative assessment. At the core of the discussion on formative assessment was how it supported teaching and learning and enhanced the reciprocal relationship between teacher and students. Some participants raised concerns about the integrity of assessments which had suddenly transitioned online as a result of restrictions imposed on foot of the Covid-19 pandemic. The following are some of some of the suggestions offered by participants for consideration when moving assessment online in the next academic year.

- Use of online polls and quizzes allows for formative assessment; assessment for learning. Polls can be used in synchronous classes or asynchronously whereby students can take a quiz independently, more than once, to consolidate learning. Polls and quizzes also help to inform future teaching by identifying muddy concepts.
- Provide low-stakes assessment tasks linked to engagement; factor in assessment of that engagement if possible.
- Include students in the assessment process and decision-making e.g. allowing students to source their own articles, share with others and perhaps (co)design assessment tasks … assessment as learning.
- Annotating videos, using a tool such as H5P could be one way of providing students with authentic, reflective tasks and assessments.
- The structure of group tasks needs to be considered to ensure parity. For example, perhaps students in large classes could be given the option of working alone on an assignment, or in groups of various sizes depending on their preference rather than the lecturer determining the size and make-up of the groups. This may work best for classes wherein students already know each other but is likely not to be as helpful for incoming first-year large classes where students have not yet met face-to-face.

As anticipated, we did not have sufficient time to discuss the impact that moving online had on curriculum development. It was evident from the plenary discussion that HEIs around the world are experiencing similar problems and are finding solutions in similar ways also. However, it was acknowledged that a certain amount of 'forgiveness' existed since March in terms of teaching practices due to the speed of the transition from face-to-face to online teaching and learning and that moving forward, large class lecturers would be expected to have coherent modules in place which effectively aligned teaching, learning and assessment. There was general agreement that staff needed support in this endeavour from each other and formally from their HEI management, particularly in relation to large classes because of their size, diversity and complexity which combined, magnify workload for teaching staff. Exemplars of good practice were suggested by a number of participants as particularly helpful with communities of practice, such as PHELC, seen as an opportunity for lecturers to share 'what works' practices.

Reference

Nind, M., Curtin, A., & Hall, K. (2016). *Research methods for pedagogy*. London: Bloomsbury.

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