

Pedagogy for Higher Education Large Classes (PHELC)



Proceedings of the first PHELC
symposium, Universitat Politècnica
de València, 25 June 2019

Editors:
Ann Marie Farrell and Dr. Anna Logan

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Introduction

Welcome to the first publication of PHELC symposium proceedings. Our first symposium took place in the Universitat Politècnica de València, on 25 June 2019. The symposium was hosted by the organising committee of the Higher Education Advances (HEAd) Conference as a pre-conference workshop.

We presented at the HEAd conference in 2018. Following that conference, the organising committee circulated an evaluative survey in which we suggested a conference strand within which higher education professors could share practice, supported by evidence from the literature but not necessarily requiring empirical data. The HEAd committee followed up with a suggestion that we submit a proposal for a pre-conference workshop. Our proposal was accepted and so, we seem to have accidentally established an organisation in its own right. We are forever grateful and indebted to the HEAd conference committee members for their encouragement, support and faith in us. In particular, we would like to thank Dr. Josep Domènech and Dr. Dr. Raúl Peña-Ortiz; their invitation has led us down a professional path that we might not otherwise have trodden. We would also like to acknowledge the moral and financial support of our Head of School, Dr. Joe Travers (School of Inclusive and Special Education, DCU) and our Faculty Dean, Dr. Anne Looney (Institute of Education, DCU), which enabled us to accept the HEAd committee's invitation and for which we are extremely appreciative. *Míle buíochas leis an mbeirt agaibh (Irish for- a thousand thanks to you both).*

We teach large class cohorts in Dublin City University, which is challenging but extremely rewarding. Over time, we have developed a range of teaching approaches to support both teaching and learning but we still encounter challenges. Teaching in higher education contexts can be quite a solitary experience resulting in lack of opportunity or confidence for sharing practice, asking for advice and so on. This is heightened in the large class context because the questions are not easily answered due primarily to the complexity of the environment. So, we have established PHELC to provide a platform for supporting our own teaching as well as that of others.

Our inaugural symposium called for papers in relation to large class teaching. While we did offer suggestions of possible topics, we did not identify a specific theme beyond that of large class teaching. Successful submissions were presented in a range of formats including traditional, lightning talks supporting poster presentations and workshop. The papers published herein represent the totality of the presentations of that first inaugural symposium.

As is indicated by our use of the terms 'inaugural' and 'first', we intend to hold more symposia in the future. We look forward to perhaps meeting you at one of them.



Ann Marie Farrell and Dr. Anna Logan

Editors

Symposium Participants

Dr. Louise Ainscough, University of Queensland, Australia.

Dr. Daniela Böttjer-Wilson, University of Hawai'i at Mānoa, USA.

Dr. Barbara Bruno, University of Hawai'i at Mānoa, USA.

Prof. Kim Bryceson, The University of Queensland, Australia.

Dr. Charalampos Chaniavidis, University of Glasgow, Scotland.

Dr. Kay Colthorpe, The University of Queensland, Australia.

Prof. Alberto Conte, Università degli Studi di Torino, Italy.

Dr. Trudy Corrigan, Dublin City University, Ireland.

Loulou Detienne, Ghent University, Belgium.

Dr. Josep Domènech, Universitat Politècnica de València, Spain.

Stephanie Duffy, Athlone Institute of Technology, Ireland.

Jon Fanning, University of York, England.

Ann Marie Farrell, Dublin City University, Ireland.

Dr. Līga Gaile, Riga Technical University, Latvia.

Fiona Giblin, Dublin City University, Ireland.

Maria Lucia Guerrero Farias, Universidad de los Andes, Colombia.

Kristi Joamets, Tallinn University of Technology, Estonia.

Dr. Kate Kelly, Victoria University, Australia.

Dr. Takako Kondo, University of Shizuoka, Japan.

Juul Lemey, Artevelde University College, Ghent, Belgium.

Dr. Edward Lock, Victoria University, Australia.

Dr. Anna Logan, Dublin City University, Ireland.

Dr. Nicolaas Luwes, Central University of Technology, Free State, South Africa.

Prof. Marina Marchisio, Università degli Studi di Torino, Italy.

Prof. Iain McMenamin, Dublin City University, Ireland.

Ian Money, University of York, England.

Ms. Tuyen Thi Nguyen, Haiphong University, Vietnam.

David O'Hanlon, Athlone Institute of Technology, Ireland.

Dr. Raúl Peña-Ortiz, Universitat de València, Spain.

Nathan Tejada de Podestá, University of São Paulo, Brazil.

Dr. Bianca Price, University of South Australia.

Dr. Valia Spiliotopoulos, University of British Columbia, Canada.

Dr. Andina Sprince, Riga Technical University, Latvia.

Eline Vanderdonck, Università Gent, Belgium.

 <p>PHELC Programme</p>	<p>Pedagogy for Higher Education Large Classes (PHELC)</p> <p>Collocated with Higher Education Advances (HEAd) Conference</p> <p>25 June 2019</p> <p>Facilitated by Dr Anna Logan and Ann Marie Farrell</p> <p>School of Inclusive and Special Education, Institute of Education, Dublin City University</p>
13.30-14.00	Registration
14.00-14.15	<p>Welcome: Introduction to workshop content and participants Ann Marie Farrell Dublin City University</p>
14.15-14.45	<p>Long presentation: Team-based learning in a large class David O Hanlon, Stephanie Duffy, Luke Fannon, Nuala Harding, Seadna Ryan, Athlone Institute of Technology, Ireland</p>
14.45-15.00	<p>Research in pedagogy for large classes in HE: Knowledge gaps and opportunities Anna Logan, Dublin City University</p>
15.00-15.20	<p>Short Presentation: Enhancing the student experience: Facebook as a support tool for students in an enabling education Bianca Price, University of South Australia</p>
15.20-15.40	<p><i>Lightning Talks based on Posters</i></p> <p>Enabling active learning through the use of Plickers Charalampos Chaniailidis, University of Glasgow</p> <p>Simulations for assessment in large classes Iain McMenamin, Dublin City University</p> <p>A low mobile data usage gamification scavenger hunt prototype for engineering students at an African university of technology Nicolaas Johannes Luwes, Leanri Van Heerden, Central University of Technology, Free State, South Africa</p> <p>Motivating students through gamification in nursing education: A qualitative research Juul Lemey, Evelien Hast, Artvelde University College, Ghent</p> <p>Pedagogical assessment and possibilities of developing World Café Method and Inter-generational Learning into higher education learning Trudy Corrigan, Dublin City University</p> <p>Building UDL into summative assessment in a large class: Challenges and possibilities Ann Marie Farrell, Dublin City University</p>
15.40-16.15	Coffee & Questions and Poster Presentations
16.15-16.30	<p>Short Presentation: Promoting student engagement with a large class (400+): Implications for large sized lectures, small group workshops and online teaching and learning Fiona Giblin, Dublin City University</p>
16.30-17.20	World Cafe roundtable discussion: Teaching, learning and assessment in large classes
17.20-18.00	Plenary discussion: Conclusions and action planning for practice and research building on the first PHELC symposium

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Enabling active learning in large classes through the use of Plickers

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Abstract

Class response systems allows for just-in-time teaching (JITT) assessments and quizzes. Unfortunately, most of them require students to have an electronic device and do not allow for students to participate and engage in critical thinking. Plickers, on the other hand, is an alternative class response system which does not suffer from the previous disadvantages and can stimulate debate and discussion during the class which as a result may enhance learner motivation.

I assessed the effect of using Plickers on the engagement and participation of the students by having a questionnaire at the end of the course with questions related to the Plickers application and what students thought about it. Results were positive and it seems that students felt that the application enabled them to measure the understanding of the subject and they were more involved compared to courses that were not using Plickers.

Overall, Plickers could be a potentially useful tool for classrooms, and it has yet to be evaluated in empirical research. The lack of research with this application leaves a potentially vital absence in the literature that may improve both learning and teaching with the use of this new technology.

Keywords: *active learning; class response systems; teaching.assessment; large class*

1. Introduction

Plickers (“paper clickers”) is an application that allows for just-in-time teaching (JITT) assessments and quizzes, and requires only a sheet of paper for each student and for the lecturer to have a phone (or a tablet) to scan the student answers. The idea for this study came to me when students were coming by my office to ask me questions and I realised that they were able to solve exercises and answer tutorial questions but (some of them) were not able to critically reflect on the ideas behind the course. Every time I asked them to explain in layman’s terms the reason why we follow this statistical procedure and what we want to achieve at the end, they were struggling. I have already used this for the tutorials of the previous academic semester, as a formative assessment, not just for assessing what students know and have a problem with but also to let them decide what material they would like me to revise and spend more time on.

The applications requires only a sheet of paper for each student and for the lecturer to have a phone (or a tablet) to scan the student answers. Each card is different when held up in the four different orientations,

and there is a letter (A, B, C and D) and a student number at the top of each orientation. In this study I was giving out the Plickers cards to the students every time they came to class to ensure that every student was getting a different student number every time and ensure anonymity. To be more specific, Plickers is a set of unique printable QR codes (see Figure 1). After I guided them through the multiple-choice question, the students could hold up their card so that their answer is at the top of the QR code.

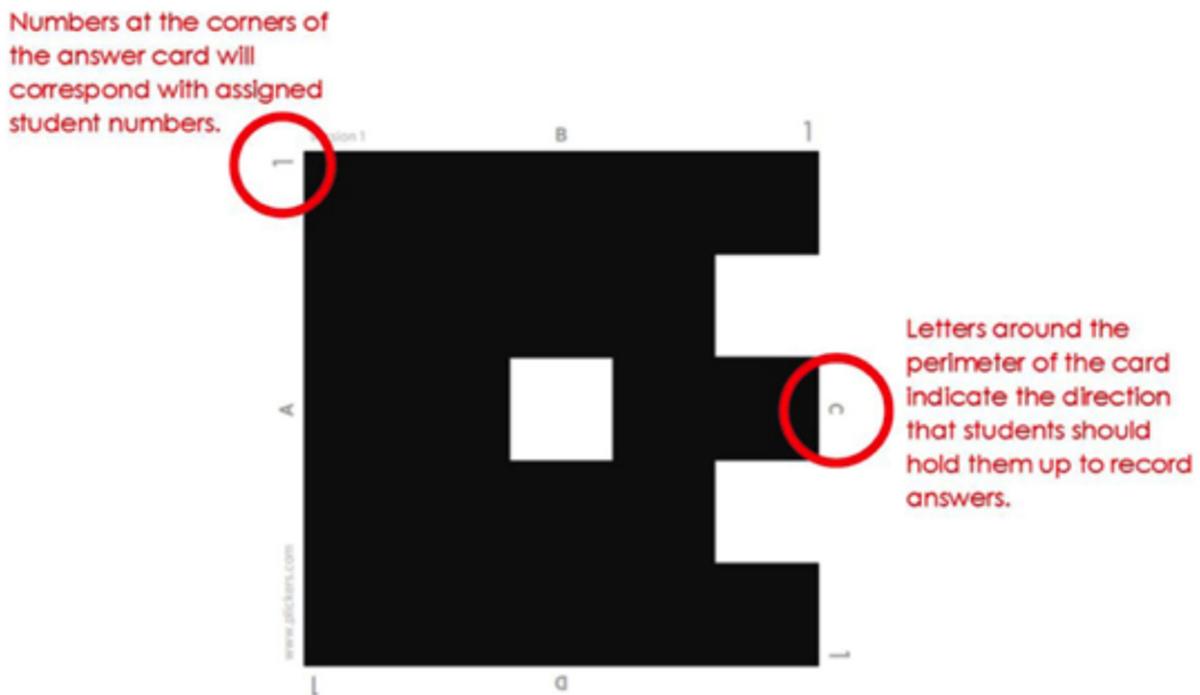


Figure1: close up of a plickers card

At that point, I used the Plickers application in my iPad to scan the class, and get real-time anonymous and formative feedback. For a more thorough description of the technology behind Plickers one can look at Wood et al. (2017). In the same paper the authors also point out that Plickers quizzes encouraged their students' learning in the class and that almost 90% of the respondents said that other classes and instructors should implement Plickers. Similar surveys with positive results, on high-school students, can be seen on Thomas et al. (2016) and McCargo (2017).

2. Purpose of Study and Reason Behind using Plickers

The class was comprised of 35 fourth-year students in an applied Statistical course (titled Advanced Data Analysis) on which I employed flipped classroom techniques. Students were receiving the material a week earlier and there was one meeting during the week where we could discuss the material and prepare for the weekly lab session. Thus, Plickers was a good way to initiate the discussion since it was really helpful in letting me (and the students) know what were the difficulties in their learning.

The main purpose of this study was twofold:

1. to assess the effect (if any) of using Plickers in the classroom and
2. to assess if students are engaging and participating in learning without feeling self-conscious.

I tried to assess the aforementioned issues by having a questionnaire at the end of the course with questions related to the Plickers application and what students thought about it. It is important to note that the participants' vulnerability assessment was an important matter regarding this study; specifically when answering the questionnaire that assesses the helpfulness and usefulness of the Plickers application. I mitigated the dependent relationship the students have with me (as their lecturer); by having a PhD student giving and also receiving the filled questionnaires while I was not in the class at that time. Furthermore, I made clear multiple times during the class that students do not have to take part in this study.

If any students decided not to take part they would still be part of the class in exactly the same way and would take part in normal learning activities with the rest. If, after students had started to take part, and changed their minds, they could still stop using the Plickers cards and not answer any questions at all. The questionnaire included 11 statements that the students could choose one possible answer out of five (these were on the Likert scale) and two open-ended sentences that each student could write any comments they might have had regarding Plickers.

The benefit of using technology such as Plickers in the classroom eliminates the need for teachers to collect student response data on paper which can easily get lost or use other response systems that require students to have an internet connection also. Plickers can also store the student response data online for both the teacher/researcher's and students' benefit.

Not only will this make things easier for the teacher, but the students will be able to see the response results on the screen immediately while keeping the answers anonymous. I chose the Plickers application as a JITT tool for two reasons. First, there is no need for the students to have an electronic device. Thus, there weren't any problems with students' devices not being able to connect to the network or students being distracted by other things e.g. Facebook, Twitter, etc). In addition, the application is really fast and can collect the answers from 40-50 students scattered throughout the lecture theatre in (no more than) 5 seconds. The second reason why I decided to go with this particular application, is that I feel that the way Plickers works (with each student having his/hers own unique card) will make it more fun for students to participate and engage in critical thinking.

3. Results and Conclusions

For this study there were 24 students that completed the questionnaire. Figure 2 visualises the data from the survey with stacked bar charts. The three percentages, from left to right, refer to the respondents that disagree (strongly or not), are neutral, and agree (strongly or not) with each statement. These are ordered by the statements with the highest percentage on the (strongly or not) agree statements. It is reassuring that the final three statements of the questionnaire are on the bottom of the graph.

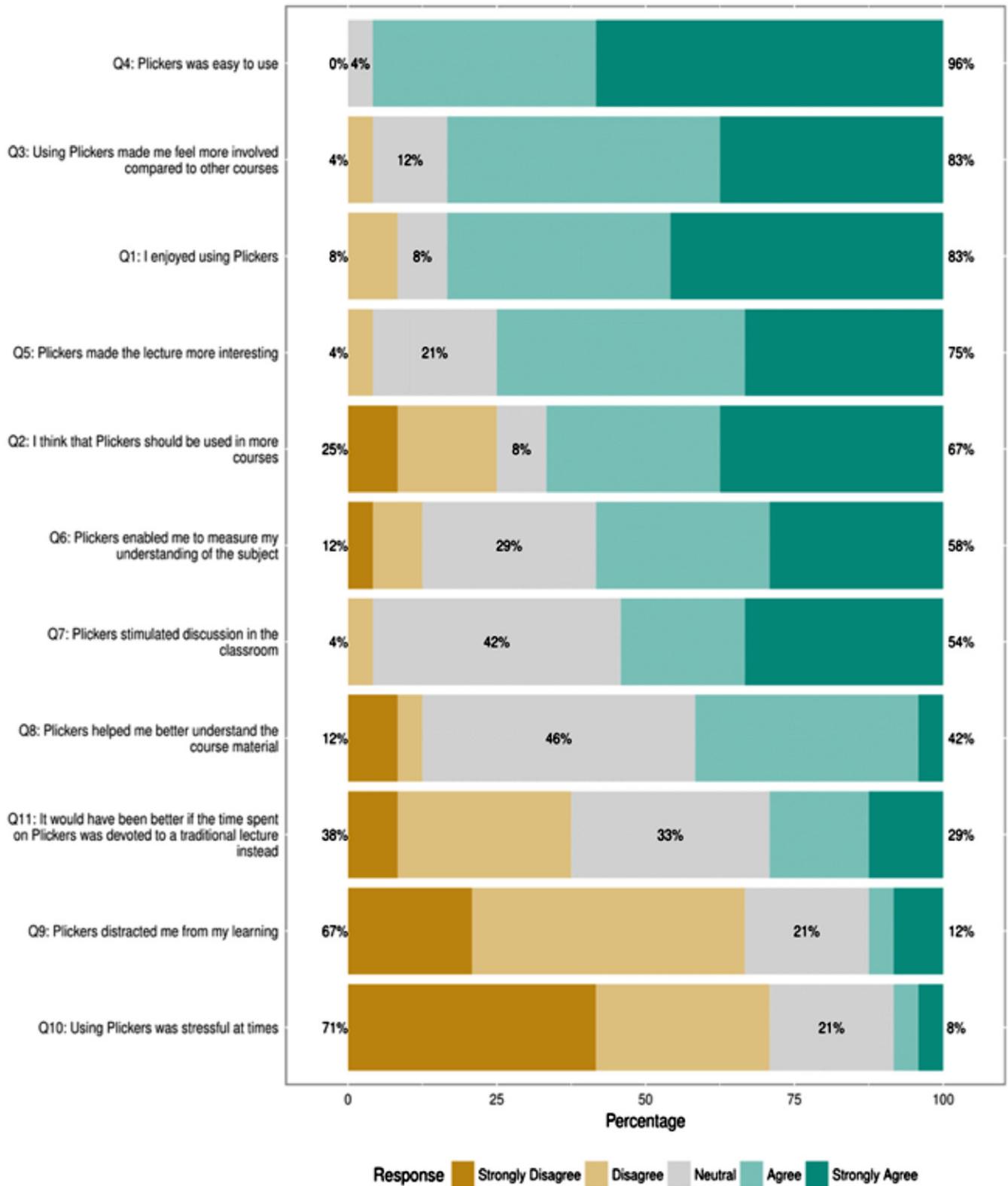


Figure 2. Stacked bar charts. The three percentages refer to the respondents that disagree (strongly or not), are neutral, and agree (strongly or not) with each statement.)

4. Reflections on Analysis

Even though the results seem to be mainly positive there are a couple of issues that need to be addressed. First of all, the number of the participants is not high enough to start feeling really confident about the use of Plickers in class. Having said that, I expected a number like that since the class is comprised of 35 students in total and I asked for feedback on the last week of the class where 24 of them were present. Furthermore, it was really rewarding to see that almost all the students were using the application during the semester and that the majority of them were actively participating and appreciated that the class was a bit different than others.

Finally, the findings show that Plickers was effective in the classroom and that it made students participate in class without feeling self-conscious. I feel that students are open to trying new technologies in the classroom and appreciate having the power to drive the conversation of each week's class. There were a lot of times that students who asked me why their answer was wrong, were answered by other students who explained it to them during the class. I plan to use Plickers again next year but maybe try a mix of the traditional lecturing approach with Plickers. I hope that, this would make it a smoother transition for students who do not feel ready yet to actively participate in class. In addition, I plan to include a "Don't know" answer as a possible answer for the questions in class, since I currently can not tell how many students did not answer a question or answered it just because there wasn't a "Don't know" possible answer.

The benefit of using technology such as Plickers in the classroom eliminates the need for teachers to collect student response data on paper which can easily get lost or use other response systems that require students to have an internet connection also. Plickers can also store the student response data online for both the teacher/researcher's and students' benefit. Not only will this make things easier for the teacher, but the students will be able to see the response results on the screen immediately while keeping the answers anonymous. In addition there is no need for the students to have an electronic device. Thus, there weren't any problems with students' devices not being able to connect to the network or students being distracted by other things (e.g. Facebook, Twitter, etc).

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Pedagogical assessments and possibilities of developing World Cafe Method and Intergenerational Learning into higher education learning

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Abstract

The World Cafe Method of Pedagogical Assessment and Possibilities is frequently referred to as 'The Knowledge Cafe'. It is a structured dialogical approach to learning in which groups of people discuss a topic at many tables where students move from table to table at intervals and are introduced to a new theme of the same topic for discussion at their new table by 'a table host.' A cafe environment is created to promote conversation, facilitating new ideas and engagement together. When this is combined with intergenerational learning which promotes the inclusion of older people who themselves are not students but who wish to bring a wealth of experience, knowledge and skills based on life experiences, this becomes a truly energetic and engaging way to promote deep learning in higher education between younger students and older people. This facilitates reciprocal sharing of knowledge, competences and skills relevant in higher education teaching and learning. In this paper the opportunities and challenges of the World Café approach in the large class context are considered.

Keywords: *World Cafe Method; Intergenerational Learning; large class; higher education*

1. Introduction

Today higher education has seen a significant increase in the entry rates of students to third level education. This increase in student numbers is very much welcomed as a contribution to the economic, cultural, educational and social development of countries across the world. Despite this, increased entry to tertiary education creates its own difficulties in guaranteeing high quality learning and engagement between students and lecturers. This is in particular where student numbers in large classes can potentially be an issue for the participation and quality of learning engaged between staff and students in these contexts. The need for more active engagement and student-centred learning approaches can be seen as both a challenge and an opportunity for academic staff across many universities both at national and global level. A key factor is to share these approaches and strategies so that they become a benefit for academic staff at a universal level.

A high quality democratic process to promote student engagement is The World Café Method. This is a structured dialogical process which promotes critical thinking and knowledge sharing in which groups of

people discuss the same topic at different tables in the same room. It consists of each table having 'a table host' who remains at the table to take notes related to the conversation engaged at the table. In addition, the participants are invited to move from table to table while the table host remains. This allows for physical movement from one table to the next but in addition it allows participants to discuss different aspects or concepts of the same topic as they move from table to table. The act of physically moving from one table to the next ensures that participants are alert, promotes engagement of all participants and demonstrates that all voices and opinions are valued within this context of teaching and learning.

The chief role of the table host is to collect notes related to the table discussion and to share these with each group who come to the table so that they have an understanding of the topic already covered by the last group and in addition to encourage their contribution to new conversation and knowledge related to the same topic. Each group is allowed the same time. For example twelve minutes might be dedicated to each table discussion and when this time is up, the groups are advised by an overall facilitator ie teacher or lecturer to move to the next table where they begin a new discussion based on a new theme or concept. The table host reminds them of the discussion just undertaken at this table and the role of the new group is to contribute new knowledge to the topic already discussed.

A plenary discussion is provided of approximately fifteen minutes before the end of the lecture or session where all groups are invited to present the findings discussed at each table. This is usually conducted by the table host from each table who writes the key points on a flip chart and where these reflections have been designed and developed to promote further discussion and reflection on the topic. The intergenerational engagement compliments the World Café Method by inviting retired teachers or retired experts for example to join the discussion by sharing and gathering their ideas from within each group. This is to promote critical thinking, dialogue and a solution- oriented approach together. In this way advice and wisdom from past experiences can be collated with experiences of the present to promote a solution-oriented approach for the future. This method is suitable to promote effective and high quality pedagogical practice in higher education in large class settings.

2. Methodology

World Café Method was designed by Juanita Brown and David Isaacs in 1995 when a major corporate event hosted at their home in California was disrupted by a thunderstorm. They organised a 'café style' ambience in their home where they invited the participants to move from table to table while simultaneously gaining relevant knowledge and reflection through the sharing of key concepts, knowledge and ideas together. All participants were encouraged to both speak and listen and to write down their comments and reflections where appropriate. In World Café Method, each table can have up to twelve participants but theoretically there is no upper limit. To make this work well, it is advised that a maximum of ten participants per table can work with at least ten tables in a large room.

This allows for the participants to move on ten occasions within a two hour session. For example ten participants per table will be invited to move to the next table every ten minutes discussing a new theme related to the same topic. Twenty minutes will then be dedicated to the final plenary session at the end. In

an ideal situation up to ten participants per group will be invited to move to six tables every 20 minutes for example leaving thirty minutes for a plenary session at the end. The facilitator will need to ensure good timekeeping and ease of access in a safe manner to each table while six key topics might be decided in advance to allow for discussion and critical thinking at each of the six tables. The results are noted in a common plenum session where strategies for further discussion and sharing of knowledge can be developed for the future development of key concepts. This method can be very useful for developing key concepts and in addition for assisting with writing assessments or reports when the session has ended.

3. Literature Review

Kerr (2011) states that there is an assumption that smaller classes provide better learning environments but 'finding empirical evidence for this assumption is more challenging.' Despite this, a number of studies have highlighted that increased class sizes have a negative effect on student retention. Kerr notes that one of the most critical problems faced by instructors of large classes is that students can feel isolated and anonymous to both the instructor and to one another (Svinicki & McKeachie, 2010:273). Class size can impact directly on student engagement or disengagement. Entwistle (2010: 22) sees that to address this issues among students in higher education that research highlights that an intrinsic focus towards student learning of a particular discipline is to understand content and to develop expertise in the field. This leads to higher quality learning instead of just the attainment of qualifications.

This approach is frequently referred to as 'deep' learning as opposed to 'surface' learning (Marton, 1976). The surface approach to learning tends to be identified as memorization and reproduction of information. While deep learning encompasses a genuine motivating interest in the subject which involves critical thought, interpretation, integration of new knowledge with previous understanding, application and transfer of knowledge to new contexts and situations. World Café Guidelines by Brown and Isaacs (2005) have seven design principles to promote deep learning and critical thinking.

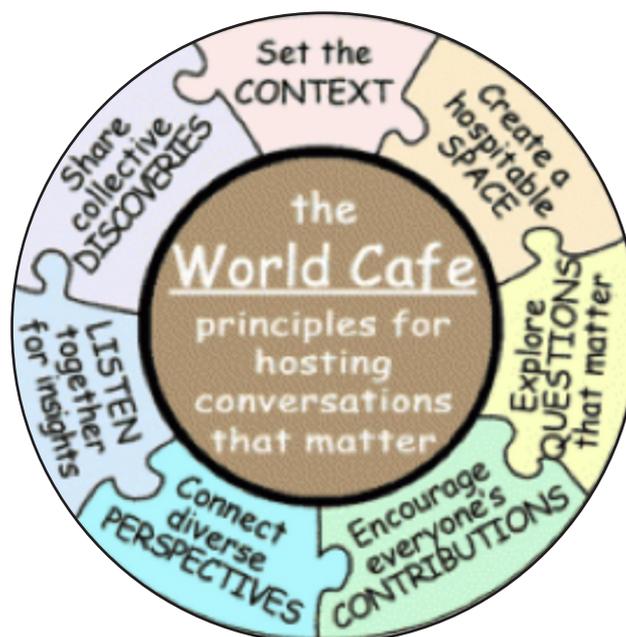


Figure 1. Seven design principles for World Cafe

These feature as the following (1) Set the context which focus on the reasons that a group of people have been brought together and what they want to achieve. (2) The second principle is to create a hospitable space where everyone feels safe and welcome. (3) It is important to explore the questions that matter where knowledge emerges in response to compelling questions. (4) The fourth principle is to encourage everyone's contribution. (5) This is to connect diverse perspectives while (6) is to listen together to develop patterns and insights. The final and seventh principle is to share collective discoveries together. When these design principles are used they promote collaborative dialogue, active engagement and constructive possibilities to promote action for the future. They are especially relevant in the context of providing a solution-oriented approach to a diversity of contexts in education and in the corporate world. In this respect their transfer from a corporate environment where they originated to an educational context is very relevant. Scheiffer, Isaacs & Gyllenpalm (2004) defined why World Café as a method is needed. They state that 'it is a user friendly method for creating meaningful and cooperative dialogue around questions that count. As an organized or social design process the World Café offers a practical way to enhance the human capacity for collaborative thought.' They believe that creating this kind of environment 'catalyzes dynamic conversations and opens new possibilities for action.' The philosophical ideas which guide the concept is that each person has his/her own interpretation of the world based on mental models constructed in his/her own reality. It is only when one's viewpoint is shared that individuals and organizations broaden their understanding of the various alternatives to action and solutions. Schieffer Isaacs & Gyllenpalm (2004) believe that World Café is 'not only a process for sharing world views but also a tool that creates the context for collective action'.

What is intergenerational learning? The European Network for Intergenerational Learning (ENIL) define this as 'the way that people of all ages can learn together and from each other. It is an important part of Lifelong Learning where generations work together to gain skills, value and knowledge. Sanchez & Kaplan (2014) in their paper on the relevance of Intergenerational Learning in Higher Education make the case for multigenerational classrooms. They see educational institutions in higher education 'both in Europe and in the United States in a context of sustained augmentation of age diversity among their students.' They argue that the greatest benefit of opening up classrooms to the expertise of older people is by inviting their opinions and ideas. This the authors believe provides an opportunity so that age differences among students and instructors 'can be framed in ways that contribute to content- and- interaction- rich intergenerational teaching and learning processes.' They believe that this form of interaction creates a dynamic classroom setting and a flourishing of shared ideas and solutions through dialogue and engagement together. It should be noted, that in this context, the older generation are usually invited to provide their ideas and they are usually not seeking a degree for accreditation purpose. Instead they can be invited for the purpose of the World Café Method to share their experience and knowledge. In this way, World Café demonstrates to students that other perspectives and expertise of an older generation are welcomed and valued outside of the purpose of qualifications or accreditation.

What World Café Method has to offer within a large class context in higher education is that it provides the opportunity for students to engage in learning in a way that is meaningful and values their knowledge and reflections despite the large size of the class. Cooper & Robinson (2000) acknowledge the dissatisfaction

of large class learning experiences with factors such as lack of interaction with faculty members, lack of structures in lectures, lack of or poor discussion sessions, inadequate contact with teaching assistants, inadequacy of classroom facilities and environment, lack of frequent testing or graded assignments some of the reasons cited for dissatisfaction with large classes in their study. These are some of the reasons cited by them which makes lectures and large classes ineffective. Citing the work of McKeachie (1999), Cuseo (2007) and Costin (1972) they refer to the following as key elements of an effective lecture with large classes designed by facilitators to organise, integrate and update reading materials, model problem solving and critical thinking, demonstrate enthusiasm for the subject matter, relate course-relevant personal experiences to the students, provide contexts for issues and ideas and information introduced in the reading.

The use of Intergenerational Learning together with the World Café Method provides an opportunity to introduce a strategy to large classroom teaching that is dynamic, engaging and which draws on each student's experience and reflections to provide a deep learning experience relevant for each of them now and in the future. In addition it promotes the concept that a collective response through shared dialogue and engagement together and informed by lecture notes and resources can provide a solution-oriented approach to teaching and learning which is relevant within the classroom and also to wider world issues relevant now and in the future. For example our collective response to climate change, to world poverty; these are issues which can be introduced and addressed through the World Café Method in addition to discussion around the issue of large classes and assessments appropriate for students in higher education.

2.1. Limitations of World Café Method with Large Groups in Higher Education:

Tener (2014) outlined the benefits as well as the limitations of World Café Method. Used within large lecture settings the use is restricted because of the layout of the environment. For example large tiered classrooms provide little opportunity to create a 'round table' setting. Tener highlighted the need for a clear rationale to use this method as she says that 'some experiences were mediocre as there was not a clear reason people were put into conversation.' She also discusses that while much conversation takes place, 'often all the ideas do not get fully captured to take action.' Despite these limitations, Tener also acknowledges that World Café Method as a process is valuable. This she highlights as its ability to 'connect across siloes. For example participants can work on the same issues yet they do not get an opportunity to talk to each other. It facilitates a foundation of trust for collaboration; it helps in 'planting seeds for new ideas' and it is a 'different way of learning.' This she attributes to the practice of 'collective learning, surfacing and synthesizing the collective experience of people in the room to gain new insight while also providing a way for individuals to learn and make unique connections' relevant to learning. Tener refers to the limitations and the benefits of this method chiefly within a corporate context.

4. Conclusions

One of the innovative aspects of World Café Method is that it has yet to be adopted from its origin within a corporate context to a variety of educational contexts to promote deep learning and active engagement. It

does bring with it the potential to add value to high quality teaching especially in large classroom contexts. The challenge for lecturers as facilitators is to be very clear in relation to the rationale for using this method as an effective teaching strategy. One way to do this is to design the overall key topic for discussion and then to break this into key sub themes so that these sub themes become the key question or the key topic for conversation at each of the tables. In this way, World Café Method facilitates the breaking down of a large topic for conversation to be divided into smaller key themes and then to be discussed together ie to build back together at the plenum discussion at the end of the session. This promotes dialogue, active engagement and shared critical thinking within a process of scaffolding both within smaller and larger groups to promote deep learning in the wider collective context of teaching and learning.

Limitations such as the lecture environment need to be taken into account but this should not prevent or limit the use of World Café Method. Where tables are not available, students can be encouraged to devise a group and to find a space within the lecture theatre where they can come together to discuss key topics and where the same rules apply for World Café Method. This is where they are instructed to move to another part of the room where the next theme can be discussed with their group. In this way the method can be as effective as if it was a group sitting around a table. The same active and democratic processes of learning apply in a variety of contexts of differing learning environments.

The World Café Method is a valuable, participatory and flexible method of learning which can be used to support deep learning especially in large classroom contexts within higher education. As Juanita Brown said 'When we change the conversation, we change the future.' This conversation has the potential to be transformational for every student and to develop classroom's as communities of learning when it occurs within the process of active learning. As John Dewey said 'give the pupils something to do not something to learn and the doing is of such a nature as to demand thinking; learning naturally results.'

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Building UDL into summative assessment in a large class: Challenges and possibilities

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Abstract

The focus of this paper is on the use of the Universal Design for Learning (UDL) framework to inform the teaching and learning environment in a large class (400 students). Specifically, this paper focuses using the UDL principle of 'multiple means of action and expression' to design the continuous assessment of the module so that students could demonstrate their understanding in a variety of ways, with provision of choice built in throughout. Challenges include the time required to manage the choices students made; ensuring equity across assignment; and, creating new assignments each year to reduce the risk of plagiarism. However, there are many advantages to this work including, greatly enhanced student participation and engagement; application of concepts by student; and, increased satisfaction and sense of reward on the part of the teacher/professor.

Keywords: Large class; Universal Design for Learning; assessment.

1. Description of Teaching and Learning Context

The focus of this paper is on a final year module in a four-year BEd primary teaching programme which is one of many teacher education programmes in a large faculty of education in an Irish university. The module explores the concept of inclusion through two distinct lenses (strands): social inclusion and poverty and, inclusion of pupils with special educational needs (SEN). It is the latter strand which is the focus of this paper. This year, there were 400 students in this class. The students engage with the strand through large plenary sessions primarily as well as some workshops whereby the large class is broken down into twelve groups comprising between 25 and 40 students depending on timetabling restrictions.

The scale of the large class size presents challenges which can translate into a restricted, narrow range of assumptions on the part of the teacher resulting in the rejection of teaching approaches that may commonly be utilised in smaller class settings in favour of a more didactic approach to teaching. Some years ago, I stopped saying "I can't do that with a large class" in favour of "How can I do that with a large class?". I have tried to align teaching, learning and assessment to promote student engagement, participation and attendance to maximise student learning and to take account the inevitable diversity in such a large group of students. The Universal Design for Learning (UDL) framework has informed how I have designed the teaching, learning and assessment environment of this strand. There are three key motivations and beliefs underpinning my approach:

1. As a teacher educator, I want to model the teaching approaches I would like to see utilised by my students.
2. The module is about inclusion and that has to be explicit in my own practices as a university teacher.
3. Enhancing the engagement and participation of my students will enhance their understanding and philosophy of inclusion as well as their skills and aptitude to enact inclusive practices.

Inclusion of pupils with SEN is explored using a 'funnelled' content design whereby the contesting debates and philosophies of inclusion are examined firstly at a systemic level, then at school level and finally, at classroom level. Throughout, the policy/practice nexus provides a foundation to the teaching and learning. I use the UDL principles of multiple means of representation and engagement to inform my teaching. However, it is the UDL principle of *multiple means of action and expression* which informs the assessment design which will be explored in more depth here.

I was anxious that the breadth and depth of learning in class be captured in the assessment design while simultaneously recognising that learners may wish to represent their learning in different ways. Therefore, I have tried to embed the summative assessment throughout the module, supported by formative assessment and feedback and explicitly aligned to the content of the module. The intention is that all learners have an opportunity to represent their understanding in multiple modes (one of the principles of UDL), some of which are prescribed while others incorporate a wide range of choices for students. The following is an overview of the summative assessment design:

- Students use *Peerwise* to engage with policy and legislation. I proscribe specific documents with which they engage, supported by plenary lectures which highlight key aspects of the policy in question. Students are expected to choose one or more policies and to (a) create two multiple choice questions for other students to answer, (b) answer five questions created by other students and, (c) evaluate or comment on two of the questions they answered. Feedback is peer-to-peer. Students are anonymous to each other but I can identify them. Marks are awarded for engagement with the task (5%).
- Many of the plenary sessions include guest speakers and/or engagement with formative assessment tasks which cannot be replicated online and therefore, I value attendance at these sessions. Hence, I collect a roll at each and record the names of those who have attended and follow-up with those who did not and/or were signed in by others in their absence. Attendance at the plenary sessions is awarded 5% for at least 80% attendance and a sliding scale operates for those who have attended 70% or less.
- Students engage in three workshops (12 groups in total). The students in each group are enrolled in a *google doc* before the commencement of the workshops i.e. one *google doc* for each of the twelve groups. A detailed case study is used by each workshop group, which describes the learning profile of a primary aged pupil with SEN. The case is real and the profile developed arising from an in-depth diagnostic assessment across a number of domains. The students use the case to develop

an individualised plan for the pupil. Each of the twelve workshop groups is further divided into five sub-groups (i.e. 60 sub-groups in total), each of which focus on one domain of learning of the pupil's learning profile. The individualised plan is developed in three key stages; each stage is reached by the end of the weekly 50-minute workshop. Students work on the plan in-class while I provide feedback to the smaller sub-groups and the larger workshop group when necessary based on my evaluation of the students' work on the *google doc* during the class. Following each of the first two workshops, I provide written feedback on the *google doc* for each of the 60 sub-groups and therefore, they can begin work immediately when they come to the workshop the following week. The task is completed by the end of the third week; the members of each sub-group are awarded a mark up to 10%.

- The bulk of the marks (80%) are awarded for a terminal task, which students work on independently, although I do allow at least two teaching hours to be 'returned' to the students which they can use to meet with their group and work on the task. Students are provided with a range of choices for this task. Firstly, they have a choice of three assignments, (a) creation of a handbook, (b) analysis of a case study and (c) construction of a lesson plan based on a detailed class of twenty students. Students have choices regarding the structure of the task also; they can choose who to work with and how many (up to five in a group). There are also choices of focus built into each of the three assignments. Each assignment must evidence understanding of policy and best practice; clear reference to the literature; justification for the inclusion of content and choice of focus; and, deep understanding of the issues, tensions and possibilities.

2. Literature Review

The increasing numbers of and diversity in student cohorts in HE contexts implies a diversity of learners (Allais, 2014) regardless of the programme in which they are enrolled. Tailoring the learning experience to take that diversity into account requires a belief that all should be included as well as willingness and ability to enact that belief in a meaningful manner. Florian (2008) and Florian and Rouse (2009) identify three key assumptions about teaching children: teachers need to understand and account for difference as a normal aspect of the conceptualisation of learning; they need to overcome the notion that they are not capable of teaching all children; but, in doing so, they need to understand how to incorporate helpful information about difference in their practice and to learn new strategies for working with and through others when necessary. It is possible to assume that these three assumptions are relevant to HE also, however, this is arguably more complex in the HE context partly because of the manner in which academics view their identity. The university context is a contested space which often pits teaching and research against each other (Cartney, 2015). The role of teacher represents only part of academics' identity and competes with their identity as researchers and administrators (Trautwein, 2018). This, coupled with the fact that HE academics are usually employed as a result of their expertise in a particular discipline rather than their teaching expertise means that the art, craft and science of teaching (Nind, Curtin & Hall, 2016) may not be understood or valued.

Two broad conceptions of HE teaching dominate. Firstly, teaching which is viewed as the job of imparting information is considered to be 'teacher-focused', while focusing on student experiences and learning is considered to be 'student-focused' (Akerlind, 2003; Barnett & Guzman-Valenzuela, 2016). However, there may be an unhelpful binary here; it could be argued that taking student learning experience into consideration in a meaningful and effective manner requires even *more* focus on the teacher and his/her actions than is the case when an academic lectures at a class. When a class is perceived to be 'large' it often results in the assumption that a traditional, didactic, 'talk-at-them', lecture approach is the only feasible way to teach (Hornsby & Osman, 2014). Of course size matters but only insofar as it is taken into account by the teacher when designing the teaching/learning context. And, this is true of any class of any size, not just large classes.

Universal Design (UD) is a conceptual framework developed by Ron Mace in the 1980s for the design of buildings which would make them accessible to all (Rose, 2000). UDL is an adaptation of the framework for the teaching/learning context, developed by David Rose and his colleagues in the Centre for Special Technology (CAST) (www.cast.org) to enable teachers to address diversity in their classrooms. It provides a blueprint for teaching which focuses on the learning experience of all students aligned with consideration of the actions of the teacher.

The principles of UDL are (Rose, Gravel & Gordon, 2014):

1. Multiple means of representation (the 'what' of learning). Here the focus is on the communication of key concepts and ideas of the curriculum.
2. Multiple means of action and expression (the 'how' of learning). This refers to the ways in which learners demonstrate their learning and understanding.
3. Multiple means of engagement (the 'why' of learning). Here, the motivation to learn and persistence to stay on task is considered.

Underpinning each of these principles is the provision of choice. Effectively implementing UDL is challenging in any teaching context but perhaps more so in the HE large class because of the number of students and the requirement to understand the pedagogical possibilities in that setting where many academics may not have a background or expertise in teaching. While all three principles of UDL have influenced my teaching, the focus of this paper is on the provision of *multiple means of action and expression* underpinned by provision of choice.

3. Reflection on practice

Having taught this module for two years and using UDL to frame my work, particularly in relation to assessment design, the following are my reflections on the challenges and possibilities of my practice:

3.1. Challenges

- Ensuring equity of workload across assignments
- Managing my time – recording attendance; dealing with student queries; provision of formative feedback; managing elements of choice

- Upskilling on technology to enhance teaching, learning and assessment is an ongoing task.
- Balancing alignment of assessment with module content and learning outcomes.
- Ensuring fair engagement in groups determined by the teacher.
Developing new ideas for assessment tasks each year to reduce the risk of 'in-house' plagiarism.

3.2 Possibilities

- Greatly enhanced student engagement, participation and motivation.
- Provision of choice allowed those who wanted to invest greater effort and creativity to do so, resulting in some student producing outstanding work.
- Reduces risk of plagiarism.
- Allows for explicit links to be made between discrete elements of the module.
- Greatly enhanced my motivation as a teacher and expanded the possibilities of the impact of my teaching in this module and others.
- Allows for authentic assessment aligned with development of professional teaching skills as well as academic writing and research skills.
- In the teacher education context, it allows the teacher educator to model good practice in relation to UDL and assessment design.

Explicitly building UDL into my teaching in the large class context has been invigorating, exciting and motivating for me as a teacher. In this academic year, one group of these students published their assignment supported by the university and by a not-for-profit organisation (Bolger et al., 2018). I believe their work reached this standard because the provision of choice allowed them push themselves to produce work which was creative, scholarly, relevant, original and completed to the very best of their abilities.

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Promoting student engagement with a large class (400+): Implications for large sized lectures, small group workshops and online teaching and learning

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Abstract

Student engagement is widely accepted as a contributing factor on learning and success in higher education (Kahu, 2013). While a range of structural, psychosocial and psychological variables reportedly impact on student engagement, the effects of class size and particularly large classes is frequently cited as a determining influence (Mulryan-Kyne, 2010; Cuseo, 2007). This paper will present a discussion on various practices as a means of promoting student engagement with 400+ student teachers in a variety of teaching and learning environments such as small group workshops, large sized lectures and online sessions, while simultaneously highlighting that the pedagogy of the faculty is most influential and innovative course design is required to promote student engagement in large classes.

Keywords: *Student engagement; small group teaching; large sized class; blended learning environment; digital technology; pedagogy*

1. Teaching and Learning Context

Dublin City University (DCU) Institute of Education offers a number of concurrent (undergraduate) and consecutive (postgraduate) initial teacher education (ITE) programmes but with an annual minimum intake of 400 students, the concurrent four-year Bachelor of Education (B.Ed.) primary teaching degree is one of the largest cohort in the University, but also one of the larger ITE provision funded by the State in Ireland (Sahlberg, 2019). To illustrate the pedagogical and methodological approaches adopted in promoting student teachers' engagement, this paper will focus on a 5 ECTS module located in year 3 of the B.Ed. programme. The module explores integrated teaching and learning practices across the Irish Primary School continuum and comprises of two courses that focus on the various class levels of primary school; early years and the middle/senior years. For illustrative purposes, the discussion that follows, will concentrate on the early years course which all third year student teachers are registered to undertake one session each week over 11 weeks. The course is structured on student-faculty contact in small group workshops and large sized lectures; as well as asynchronous online sessions to achieve the module learning outcomes which is continuously assessed over the duration of the course. In this particular context, approximately 35

students constitutes small group teaching in a workshop space, while the large class comprising of 400+ students in a lecture theatre.

Given the reciprocal nature of teaching, the course prioritises face to face contact between students and faculty to promote learning and cognition as social processes; and the small group workshop space in particular enables the students to interact with content presentation, teaching resources, peers and faculty at an immediate and personal level. Such an environment promotes active student involvement and participation, dialogic and collaborative learning, as well as frequent opportunities for affirmation and feedback (MacGregor, Cooper, Smith and Robinson, 2000). By the student teachers experiencing this pedagogy, it is envisaged that they will be able to justify and implement such practice in their own future teaching. However, the prevalence of small group teaching with a large class in higher education institutions is subjected to impeding structural factors such as faculty workload, availability of appropriate teaching spaces and student scheduling (Prosser & Trigwell, 2014; Cuseo, 2007). As a consequence, the challenge arises to balance active learning and the teaching of content presentation within the context of large sized lectures, while maintaining student engagement.

The engaging pedagogy of active and collaborative learning that is promoted through interaction in group activities and dyadic work with peers during the workshops is continued in the lecture space, where the 400+ students are given opportunities to engage in peer-peer discussion and reflection during the lecture. As is the practice they are accustomed to in workshops, students are required to complete a variety of tasks based on content presentation during the lecture and submit at the end of the lecture to demonstrate their learning and subsequently verify their participation and attendance.

The use of the University's online learning platform i.e. Loop, powered by the open source product, Moodle, facilitates the submission of assessment tasks and enables faculty to provide individualised formative and summative feedback. Additionally, when faculty-student contact in workshops and lectures is unfeasible for the institutional reasons referred to above, students participate in asynchronous online sessions. As part of these online sessions, students engage with course material and complete a series of independent online tasks which contribute to course assessment.

In the educational context outlined here, it is the attributes of small group pedagogy integrated into large sized lectures and the use of digital technology which support student engagement in the teaching, learning and assessment process.

2. Literature Review

Student engagement is widely accepted as a contributing factor on learning and success in higher education. As a multifaceted construct, student engagement embodies the affective relationships among peers and educators within the socio-cultural learning environment; and student behaviour such as the psychological investment, interest and effort assumed when navigating the learning experiences (Kahu, 2013). This multidimensional understanding is consistent with Handelsman, Briggs, Sullivan & Towler (2005) who ascertained that four factors of skills, participation/interaction, emotional and performance

impacted on student course engagement and indicate the role faculty play in orchestrating the learning environment.

Equally, engaging students in their learning and the learning process is a defining feature of effective teaching (Francis, 2012). This is of particular relevance to pre-service teachers, who need to develop the knowledge and the skills of teaching and learn how to apply in their future practice. Therefore it is essential that student teachers participate and reflect on their learning process and experience the associated pedagogies that promote student engagement. Hereby, illustrating the intricacies of teacher education programmes which are underpinned by learning about teaching and, teaching about teaching (Loughran, 2005).

With this in mind, “students do not learn much just sitting in classes listening to teachers...they must talk about what they are learning, write reflectively about it, relate it to past experiences, and apply it to their daily lives” (Chickering & Gamson, 1987, p. 4). This assertion is akin to Vygotsky’s (1978) vision of pedagogy and the pedagogical ‘good’ of small group teaching is based on the understanding of learning as an interactive, social process, within which the educator facilitates the cultivation of new knowledge where the student is actively involved. Small group pedagogic spaces offer dialogic and responsive teaching, learning and formative assessment opportunities. The reciprocal and interactive dynamics within the group fosters active participation and an authentic sense of student engagement.

With higher education institution demands and structural constraints, the sustainability of small group teaching is unpredictable (Prosser & Trigwell, 2014). Large class size may appear to be a solution, but should not be to the detriment to the quality of the teaching and learning process for the student. Large class settings seem to induce ‘lecturing’ as a more convenient method of instruction which mitigates student engagement (MacGregor et al., 2000). Cuseo (2007) indicates with large classes, students tend to experience a more faculty dominated delivery of content presentation with little or no opportunities for interaction and class participation in comparison to small group teaching experiences. It is reported that the student’s passivity has a negative influence on engagement, course satisfaction, attitude towards the course and subject matter, class attendance, retention and ultimately, academic achievement and performance (Cuseo, 2007). Hereby inferring that the pedagogy of the faculty is most influential and innovative course design is required to promote student engagement in large classes (Prosser & Trigwell, 2014; Francis, 2012; Mulryan-Kyne, 2010).

3. Implications for Practice

In response to Cuseo (2007), who seeks to speculate the optimal class size in higher education, it is more apt to shift the discussion to student-oriented pedagogy as a means of engaging students in their learning. In considering the varying levels of engagement, a wider institutional approach is a prerequisite so as to provide the necessary resources and supports to both students and faculty; though Bryson & Hand (2007) suggest faculty need to deliberate on the discourse with their students, their enthusiasm for the subject and their professionalism with the teaching process to afford quality higher education experiences, irrespective of class size.

As indicated in the earlier discussion on the course structure, opportunities for active participation and collaborative learning is facilitated through interaction in group and dyadic work with peers and faculty during the course lectures and workshops. Also relative to faculty pedagogy, Cuseo (2007) tributes the frequency of assessment and regularity of feedback in the promotion of student engagement. In this particular course, the achievement of the learning outcomes is evaluated by continuous assessment of the various tasks the students participate in and complete in lectures, workshops and online sessions. Students participate in assessment tasks such as independent writing tasks (Bean, 2001), co-operative learning activities (Cavanagh, 2011), group and peer discussion and reflection, independent Loop quizzes and advance organizers (Asubel, 1960). Crediting student's participation (Smith, 1992) provides a mechanism to motivate students to attend class in order to complete a series of tasks. In workshops, the completion of a task is assessed and immediate feedback is provided by faculty. However, with the large number of students in the lecture theatre space and the faculty to student ratio, this has proved problematic in providing immediate feedback. Instead students are required to submit at the end of the lecture and to Loop for individualised formative and summative feedback.

The use of digital technology in this teaching, learning and assessment process, not only increases access to faculty feedback but also enables the monitoring of attendance with the large size lecture in a reliable manner. Equally the asynchronous online sessions when faculty-student contact in workshops and lectures is not institutional feasible, creates a blended learning environment, whereby blended learning is understood as "the thoughtful fusion of face-to-face and online learning experiences. The basic principle is that face-to-face oral communication and online written communication are optimally integrated such that the strengths of each are blended into a unique learning experience congruent with the context and intended educational purpose" (Garrison & Vaughan, 2008, p.5). However, for blended learning to be successful in promoting student engagement, it is vital that faculty carve opportunities in courses for students to discuss and reflect upon the online material and make links to course learning enabled by other modes.

The challenge of teaching effectively within a mass education system has significance for student engagement and the teaching and learning process. However, the pedagogies and practices outlined in this paper are an indication of the possibilities which can be implemented with large classes when faculty are responsive to the student and the socio-cultural nature of education in higher education institutions.

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Motivating students through gamification in nursing education: A qualitative research

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Abstract

The implementation of gamification in a course about eHealth organized in Belgium aims to create a powerful learning environment to motivate students to actively participate in learning activities, nudge them towards preparing lessons, let them accomplish tasks, enhance their planning skills, support them to reach the learning goals and to self-regulate their learning. A qualitative research was used to gather data on student's perception regarding these topics. The first results show that students feel motivated to engage in learning, prepare their lessons better, complete tasks they would not have completed without the gamification, see the training of planning skills and learning strategies as beneficial for further courses and confirm the game should be non-obligated so they can self-regulate their learning. However, some adjustments (for example more goal-oriented rewards) are desirable. Further research is necessary to make conclusive statements about learning benefits towards self-regulated learning in this course.

Keywords: *gamification; learning motivation; nursing education; self-regulated learning; large class*

1. Description of Teaching and Learning Context

In 2015 the Belgian government decided the undergraduate nursing programmes had to be reformed from a 3-year curriculum to a 4-year curriculum and that every programme had to shift their focus from educating specialized nurses to educating flexible, versatile professionals. In the undergraduate nursing programme of the Artevelde University College Ghent, the team decided to grab the opportunity to rewrite the vision and curriculum of the nursing programme. One of the key-elements of the new vision is creating motivating and powerful learning environments (Dochy et al., 2015) to empower nursing student's learning through eight learning paths. These paths are aligned with the programme specific learning results, which in turn were linked to the Flemish domain specific learning results (nvao, 2017). One of those learning paths is 'the digitally aware nurse'. In the elementary course of the digitally aware nurse, the teacher team engaged in the challenge of creating a powerful digitally enhanced learning environment for the nursing students. Hence, the choice was made to make use of gamification in the course.

The game element in the course 'the digitally aware nurse' is called 'the most digitally skilled nursing student'. Both the gamification and the course were developed from scratch. A team of eight teachers, an educational expert and an expert in gamification co-created the game. One ICT-developer programmed a web-based application in about 16 hours. Each year every student that is registered for the course can take part in the game. In 2019 all of the 187 registered students voluntarily participated in the game. Throughout the course a student can earn several points by completing goal-oriented and commitment tasks. The student who has collected the most points at the end of the course wins the game. In total every individual can earn approximately 100.000 points. These points can be gained in two ways: scanning QR-codes or clicking on a link (1) and participating in online tests (2). During the course, several non-committal assignments for the students are organised. These assignments are meant to help them reaching the learning goals. All students who finish an assignment successfully receive a QR-code or link. Scanning the code or clicking the link will result in a rewarding message (for instance: 'Well done! You have earned 1000 points because you finished the task on online planning successfully!'). Also, there are activities where only one student can get points (for instance: creating the most useful 3D-print for the nursing profession). If this is the case, these tasks are rewarded with a greater number of points.

All the teachers involved in this course can organise digital knowledge tests during or after their lessons. For this they use the online software Kahoot!. Every correct answer is worth about 1000 points. Bonuses are rewarded for faster answers and streaks of correct answers. On the web-based application students can see their personal score and check how they achieved that score (for instance: 1000 points for activity A, 500 points for activity B and 4520 points for knowledge test A). There is also an online leader board available which promotes the competitive feeling. The top ten is rewarded with a prize. Those prizes vary from an iPad for the winner to smaller prizes like digital carriers for the tenth. Every student who manages to collect 60% of the points receives a certificate, which is mentioning their achieved skills during the game. This can be used for their curriculum vitae or their development portfolio in our programme.

2. Literature Review

Gamification can be defined as "the use of design elements characteristic for games in a non-game context" to encourage a desired type of behaviour in a non-obligated way (Deterding, 2011). The use of gamification seems to be advantageous to increase engagement of students in large class settings (for instance: increased participation in discussions, more online course views, increased motivation and more course attendance) (Majuri, Koivisto & Hamari, 2018; Subhash & Cudney, 2018). It can also lead to higher test scores and increased enjoyment of the lessons (Subhash & Cudney, 2018). The goals of the gamification in this course about eHealth are: to motivate the students to actively participate in learning activities in and outside of the classroom (1); to nudge students towards preparing for the lessons (2), to let them accomplish given tasks (3); to enhance their planning skills and effective learning strategies (4) (Dunlosky et al., 2013; Pomerance et al., 2016), to support them to reach the learning goals (5) and to learn how to self-regulate their learning (6) (Zimmerman, 1989).

In fact, the main goal is to get them to a point that they self-regulate their learning processes to accomplish their goals. To make this happen, a game (connected specifically to this course) was developed. Although in first instance gamification may seem foremost linked to extrinsic motivation, the goal is to nudge students towards intrinsic motivation, so that the gamification, according to the self-determination theory, stimulates their autonomy, competence and relatedness. This will in its turn, foster intrinsic motivation and engagement for learning (Deci & Ryan, 2002; Neighbors et al., 2007; Niemiec & Ryan, 2009; Van Den Broeck et al., 2009).

3. Findings

The potential of the game was mainly evaluated through a qualitative research. A three-year loop of evaluating and improving the game is scheduled. At the moment we have evaluated version 1.0 of the game and are processing the adjustments which will result in version 2.0. A focus group was used to gain insights in the experiences of the students with the game. The selection of the participants was organised by an independent researcher at our university college and was embedded in the evaluation of the entire course. This means the game was not the only discussion topic during the focus group. All students were informed about the evaluation through e-mail. All of them who were willing to participate were included (n=8).

One researcher led the discussion in the group while a second took notes during the session. The entire focus group was recorded digitally. A semi-structured interview guide was used to lead the discussion. Additionally, all involved teachers were asked to share their experiences about the game and how they linked the game to the learning goals. The data was analysed in three phases. In the first phase the recordings were independently re-listened by two researchers. Subsequently they wrote down every piece of information about the game. The text fragments were compared with the notes of the second researcher and if possible merged. In a third phase this raw data was used to formulate improvements for the game and to list positive and negative experiences with the game. The results from the interview with the students in the focus group, the experiences of all the teachers in the course and some quantitative data are presented according to the intended goals of the gamification in the course.

3.1. Actively participating in learning activities in and outside the classroom

In the focus-group, students noticed that (n=8) they truly experienced 'the most digitally skilled nurse' as a game that motivates them to earn points and so it motivates them to participate in the activities in and outside the classroom.

3.2. Students prepare themselves for the lessons

The students did not mention anything on this topic in the focus group. However, several members of the teacher team had the feeling that students attended the lessons more prepared in comparison with other courses.

3.3. Students accomplish given tasks

Of all students enrolled in the course, 73% fulfilled the non-obligated tasks. Students indicated (n=2) that they were triggered by the game to make these assignments. They mentioned that if it wasn't for the game, they might not have engaged in this non-obligated task.

3.4. Students enhance their planning skills and effective learning strategies

Students were given the option to follow a video-training on planning skills. If they wanted, they could send their plan to the study-coach of the programme. Everyone who made this effort and did it in a 'correct' way got a QR-code which granted access to points. The students (n= 8) made it clear that they found this interesting because they saw two benefits: the earning of the points for the game and they also saw a personal added value for themselves by engaging in this learning activity that will help them to plan and study their courses in the future.

3.5. Supporting students to reach the learning goals

The students (n=8) hoped that the team would make the game more 'serious'. The gamification should be linked even more to the learning goals of the course and focus less on 'coincidence' of finding a QR-code in the course (for instance: hiding a QR-code at the end of the study book). They also indicated that only scanning QR-codes when being present in a lesson does not mean you are a digitally skilled nurse. They liked the fact that they were learning in 'another way' then they were used to.

3.6. Students accomplish given tasks

Of all students enrolled in the course, 73% fulfilled the non-obligated tasks. Students indicated (n=2) that they were triggered by the game to make these assignments. They mentioned that if it wasn't for the game, they might not have engaged in this non-obligated task.

3.6. Students self-regulate their learning

The students (n=8) indicated that they like the fact that they were not obliged to participate in the game. It is optional to take part in it and they would like to keep it that way. The game stimulated them to engage in non-obligated tasks more than they would have without it.

4. Conclusions and Implications

As the development and the testing of the game is a three-year project this report only contains preliminary results of the testing of version 1.0. The participants in this study were not selected through purposive sampling and all were motivated to give their opinion about the game. Therefore, it is not possible to make conclusive statements about the impact and the usability of this gamification. Nevertheless, the participants in this study experienced mainly positive effects on their motivation, ability to their planning

skills and learning strategies and saw the benefits of accomplished tasks they wouldn't have completed without the gamification. These results were also found in similar studies where gamification was tested in higher education (Attali, 2014; Iosup & Epema, 2014).

Students indicated the benefits of being able to choose whether or not to participate in the game as it is non-obligated. Deterding (2011) also confirmed the importance of this non-obligatory character of gamification. In version 2.0 of the game, students will be able to earn points with their final exam of the course. The hypothesis is that this will result in better scores for the course as the students will be motivated to perform well during the final evaluation of the course in order to win the game and accomplish the learning goals of the course.

Scores must be online as soon as possible to keep the game alive and 'hyped'. This was not always the case in the first version. The assumption rises that instant gratification makes students compete among themselves even more. This implicates that students need to be able to earn points every day during the course, the element of surprise must be taken in account to realize this. The team of the course is aware that rewarding the students with an actual prize is an extrinsic motivation to participate in the game. It should be tested if the participation in the game would also be so successful without those prizes.

A mixed method research would also strengthen the consolidation of making conclusive statements in the future. Additional quantitative research will be added in the study design to better measure the defined goals of the gamification. Indicators will be developed to compare the different versions of the game (for instance: the amount of students participating in the game, an overall satisfaction score and quantified motivation scores).

Purposive sampling is needed to incorporate different types of students. It is necessary to discover if variables like initial motivation, competitiveness and ease to study have an impact on the ability of gamification to motivate students. One of the future goals is to measure if students can be enhanced in reaching the learning goals because of participation in the game. Therefore, an analysis will be made if participating in the game leads to higher scores on the exam of this course. The hypothesis is that this will be the case, as a significant positive correlation between the scores in the game and in the exam ($r = 0,46$) has already been found in version 1.0. Similar results were found in a study of Knautz et al. (2014).

During the development and testing of the game some interesting insights were gained which might help teachers with the development of their first serious game or the implementation of gamification in large class settings. It is necessary to start with defining the objectives of the game (Baldeón et al, 2016; Azouz & Lefdaoui, 2018). This should be the target behaviour of your students. Otherwise the game can end up without a clear purpose which makes it more likely that students will not be eager to participate. It is also important to describe the players which enables you to adapt the game to their needs. Subsequently it's possible to start with integrating fun activities within your learning activities. It is not obligated to use software for this (Baldeón et al., 2016). However, it can be useful to control the game in large class settings and to reach all of the students (for instance: the use of an online leaderboard) (Subhash & Cudney, 2018). It is also advised to evaluate the first versions of your game (Mora, et al., 2017). Take enough time to adjust the game where necessary. Developing the gamification element and a new course at the same time might

lead to a better integration of both. Be aware that when teachers are not eager to change their original course during the creation of a serious game or gamification the integration is often lacking.

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A low mobile data usage gamification scavenger hunt prototype for engineering students at an African university of technology

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Abstract

Sun Tzu's first rule of war, from the famous The Art of War, states: "Know your enemy." Not quite an enemy, but the target audience of the university is young students who would rather be spending their time doing something they enjoy than hitting the books. Free time is spent playing computer games instead of studying, reasons being that the rewards are intrinsic and immediate whereas the motivation for learning is not yet clearly felt. Gamification is the logical solution. Literature shows that gamification could be doomed to fail due to poor understanding of gamification design. The purpose of this paper is to design and investigate a prototype low data approach to a gamification scavenger hunt for engineering students. The prototype is piloted and evaluated using a small sample group. Results are discussed, and possible adjustments and recommendations made before it is rolled out to a large class environment.

Keywords: *gamification; scavenger hunt; e-Learning, engineering education*

1. Description of Teaching and Learning Context

Literature shows a significant growth in gamification with a common definition "the use of game design elements in non-game contexts"(Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011; Limniou & Mansfield, 2018). Reasons for gamification in education, a non-game context, is based on Sun Tzu's first rule of war, from the famous The Art of War, namely; "Know Your Enemy" (Clavell & Tzu, 2013). Not quite an enemy, but the target audience of the university lecturer is students who would rather be spending their time doing something they enjoy than hitting the books. Many students use their free time gaming instead of studying, because the reward is intrinsic and immediate whereas the motivation for learning is not yet clearly felt (Erenli, 2012). One way of gamifying a lesson is a scavenger hunt through e-learning. e-Learning

is defined as instruction delivered on a digital device that is intended to support learning (Sleator, 2010). However, the digital device needed utilises mobile data and in South Africa the cost of data is high.

2. Literature Review

In nature learning happens playfully. Education copies these playful elements but abruptly halts it after elementary school (Erenli, 2012). But university students still spend their free time playing games with immediate reward versus delayed reward in class. In this digital and interconnected environment, they expect immediate results for efforts (Serrano Lara & Fajardo, 2017). Gamification addresses this positively (Albero & Ilbanes, 2018; Martinetti, Parada Puig, Oude Alink, Thalen, & Van Dongen, 2017). Designing and developing a gamification learning experience is difficult. A good understanding of game mechanics, that includes the type of game and the tool used for game play and player profiles is essential. Literature also indicates the importance of a test prototype (Morschheuser, Hamari, Werder, & Abe, 2017). Player profiles is also key and can be categorized into strivers, scholars, slayers and socialites (Bartel, Hagel, & Wolff, 2017; Robson, Plangger, Kietzmann, McCarthy, & Pitt, 2016). A scavenger hunt actively engages learning by solving questions, riddles or quizzes on a digital device that also has a GPS device. Locations can be given by GPS coordinates or QR codes (Erenli, 2012; Robson, Plangger, Kietzmann, McCarthy, & Pitt, 2016).

3. Findings

The e-Learning prototype scavenger hunt sees the instructions for the game delivered as questions that must be answered on Blackboard which is the LMS used by the university. Figure 1 shows how three different question types were used to ask engineering specific questions.

(a) Truth Table Question: Give the truth table for $Y = (0, 2, 4, 15)$

A	B	C	D	Y
0	0	0	0	[a]
0	0	0	1	[c]
0	0	1	0	[e]
0	0	1	1	[g]
0	1	0	0	[i]
0	1	0	1	[k]
0	1	1	0	[m]
0	1	1	1	[o]
1	0	0	0	[q]
1	0	0	1	[s]
1	0	1	0	[u]
1	0	1	1	[w]
1	1	0	0	[y]
1	1	0	1	[1]
1	1	1	0	[3]
1	1	1	1	[5]

(b) Multiple Choice Question: What gate is the same as this (A and B) or (A and B)

Options: A. A, B. B, C. C, D. D

(c) Fill-in-the-blank Question: QUESTION 1: Finish the code for:

```

Library ieee;
Use ieee.std_logic_1164.all;
entity andgateluwes is
Port (A,B,C: in bit);
X: out bit);
end andgateluwes;
architecture logiclukes of andgateluwes is
Begin
X<=
end logiclukes
    
```

Figure 1. An engineering approach to utilizing the LMS test questions for a scavenger hunt; a, b and c show different ways of asking engineering questions – fill in multiple blanks, multiple choice and fill in the blank respectively.

The game sees a team divided into hunters and base station personnel. The base station personnel stay in a computer lab accessing the questions via Blackboard with access to reference material and online search engines. They stay in contact with the hunters via WhatsApp. When a question is solved correctly a map appears where x marks the spot. At the location, they receive a passcode.

After the game an exploratory study is done with descriptive statistics involving quantitative data analysis. An exploratory design usually involves only a single group of respondents (De Vos, Strydom, Fouche, & Delpont, 2011; McNeill & Chapman, 2005). Quantitative analysis is important as it brings a methodical approach to the decision-making process, given that qualitative factors such as “gut feel” (Reddy, Higgins, & Wakefield, 2014). Figure 1 show that Blackboard tools have more functionality than just multiple choice.

Figure 2 illustrates the player profiles. Note that the players were very diverse in profile with ages of 19,20,22, 25 and the rest 24. 6 males and 1 female and the cultural diversity included Xhosa, English, Sesotho and Afrikaans. The fun rating as well as the playability was rated at 94%. The dynamics of the game was answered positively with emphasis on fun working in groups as well as the physical aspect thereof. They liked the out of classroom experience. They indicated the need for a prize even if it was just a cold drink on a hot day as well as a leader board with social media connection.

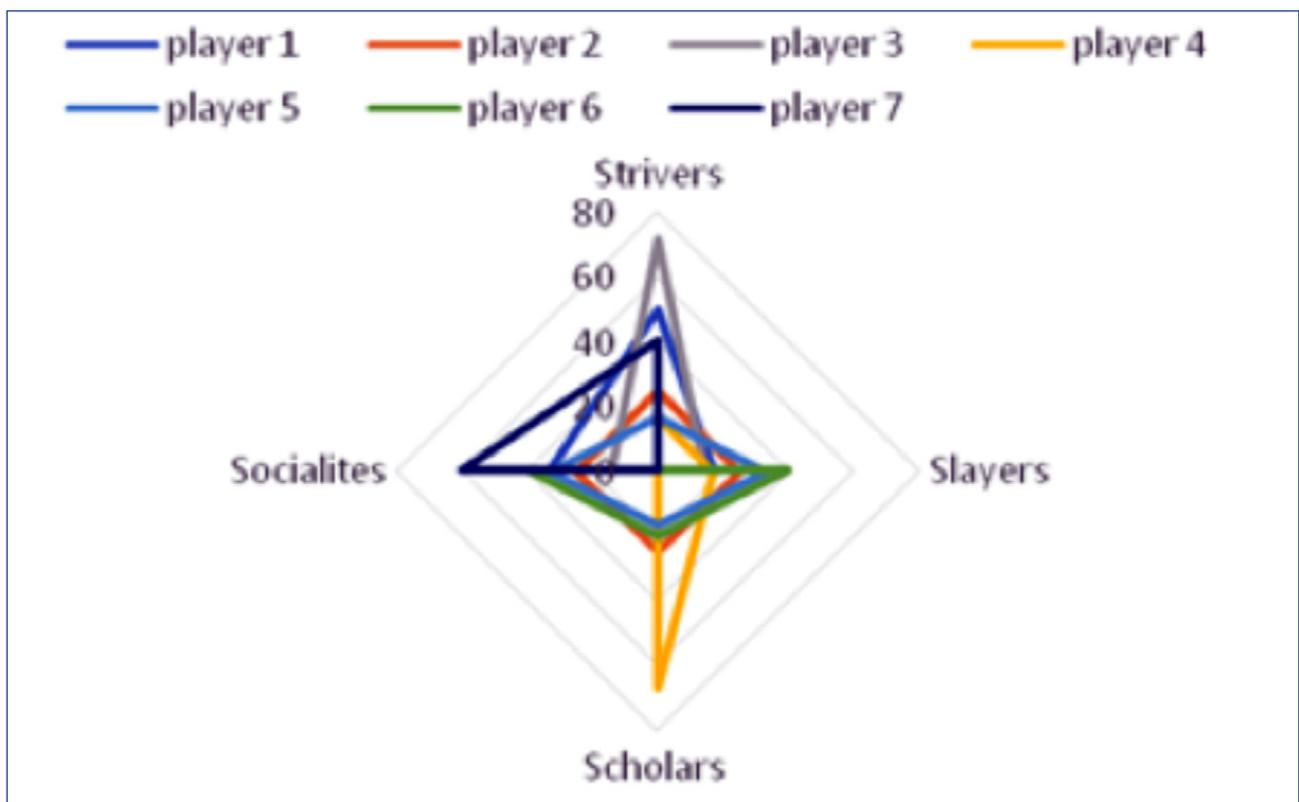


Figure 2. Results of the personality profiles of sample players.

Data usage utilizing the WhatsApp approach saw Team 1 using 911.9kb and Team 2 using 1.6 Mb. Teams sent messages, voice notes and pictures. The control was 12Mb use. Data cost in South Africa is about 0,063 Euro per Mb (Dudley, 2018). Thus 0,098 Euro for the team using the highest data versus the 0,75 Euro data control. For context the minimum wage in South Africa is 221,50 Euro per month – (Omarjee, 2019) with an unemployment rate of 26.7% (Masutha, 2018).

4. Implications

The purpose was a prototype design and evaluation of a low data usage electrical engineering gamification scavenger hunt. Observations show more competitive player profiles grouped themselves as the hunters and scholarly profiles stayed at the base station. This paper shows methods in the design and evaluation of an e-learning gamification scavenger hunt for varied players. If all player personality traits are engaged, the most efficient learning should take place.

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Super Light Simulations for assessment in large social science classes

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Abstract

Simulations are an increasingly popular way of teaching social science, but are sometimes viewed as too complex and resource-intensive for assessment, especially in large classes. This practice paper introduces the concept of a super light simulation, one that is simple enough to be used for an individual written assessment without a live precursor. It provides examples from a politics course of two hundred students. The article also reflects on how light simulations can prevent plagiarism, promote engagement, and contribute to an assessment portfolio that still includes the traditional essay.

Keywords: *assessment, simulations, social science, higher education, large classes*

1. Introducing Super Light Simulations

Simulations, including elaborate and interactive role-playing, are increasingly popular in teaching (Ní Mhuirthile 2018; Torney 2018; Usherwood 2015). This type of simulation is hard to assess. Contrary to the literature, I demonstrate that a simulation can work as an individual written assessment. I have designed over eight such “light” simulations. Recently, I have gone further and assessed my students using “super light” simulations, which have no live precursor and are therefore suitable for classes of unlimited size. The aim of my simulations is to challenge students to apply theory in complex situations. Thus, they have something in common with the problem questions and case studies used in law and business teaching. Since my subject is comparative politics, many take the form of descriptions of fantasy countries. The countries do not exist and, therefore, the students cannot just research and regurgitate “the facts”.

2. Teaching Context: Comparative European Politics

I have used super-light simulations on a second-year class of two hundred students from different programmes and faculties, as well as individual exchange students. The class has a history of highly variable engagement and performance, including plagiarised essays. There are no tutorials or seminars. My lectures are punctuated with exercises to promote engagement and check for understanding. After the simulation assessments, the students write an essay and take a multiple-choice exam.

The first assessment concentrates on the classification of a political system and evaluation of proposals for political reform. It tests the students’ ability to apply the most basic concepts of the course to a concrete

situation, which combines some relatively simple analytical challenges with some very difficult ones. In a traditional essay format, students would have been asked to critique and evaluate these concepts without ever having been asked to apply them. So, the assessment avoids the skipping of a logical step that was typical of traditional university teaching and assessment. Figure 1 is an excerpt from this exercise. Most students were able to do quite well in this assessment by offering a largely correct classification of the political system. A smaller number managed to engage with the subtle technicalities of the proposed reforms. Those who did the assessment without engaging with the relevant course material scored badly and were asked to present for some remedial tutoring before moving on to an essay.

The second light simulation dealt with another widely used, but less technical, set of concepts in comparative politics. The students are presented with four tweets from a pretend political party, which they have to classify into one of the party families from the political science literature. The classification depends on the students' interpretation of the combined meaning of images and text across the four tweets, one of which is reproduced in Figure 2. The students enjoyed this light simulation and it served to encourage weaker students who had struggled with the previous exercise.

Which features of this country are consensual? Which are majoritarian?

Overall, would you describe it as a majoritarian or consensual political system? Why?

What effect would the reforms proposed by the NZIPS have? Would they make Novaya Zembla more or less consensual?

The President is elected by a joint sitting of the House of the People and the House of the Regions ... The President does not head the executive, but she decides who should be given the first opportunity to form a government after legislative elections ... Deputies to the powerful House of the People are elected according to a party list system in large regional districts. Its composition of the House of the People is shown in Figure 1. ... The regions are responsible for their own educational and cultural policies, but depend on funding from the central government. The Constitutional Court often has to adjudicate disputes between regional governments and the central government ...

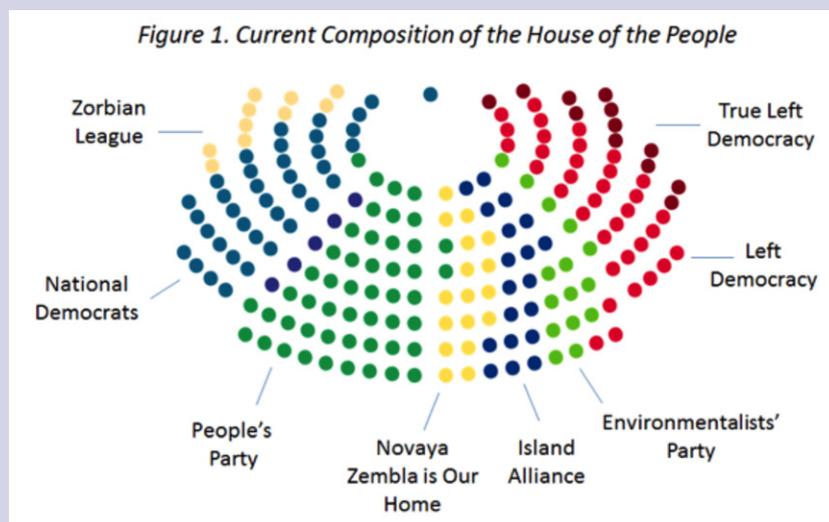


Figure 1. Classification simulation



Figure 2. Party family tweet

3. Literature Review: Traditional Efficiency, Innovative Luxury?

One of the great challenges of contemporary higher education is to avoid a trade-off between efficiency and engagement, between innovation and resources. There is a mountain of literature on simulations in social science, mostly a combination of “how-to” guides (Alden 2005; Maddrell 2007; McDaniel 2000; Van Asselfedt 2006; Woodward 2003; Usherwood 2015) and experimental evaluations of their efficacy (Raymond & Usherwood 2013; Chin, Dukes, & Gamson 2009). Implicitly or explicitly this literature assumes that simulations are only suitable for small classes (DeNeve & Heppner 1997; McCarthy & Anderson 2000; Howes & Cruz 2009; Gorton & Havercroft 2012; Usherwood 2015). Less obvious, but perhaps even more important, is that simulations do not tend to be associated with assessment. Indeed, the efficacy of simulations is often evaluated by reference to its effect on student performance in old-fashioned examinations. In the preceding, I showed how simulations can be used for individual written assessment, even without a precursor in class.

4. Concluding Reflections

Many teaching and learning papers offer real pedagogical benefits but often at the cost of substantial resources, especially the time of the teacher. This time cost squeezes attention from other teaching tasks on the course where innovation takes place, other courses for which the teacher is responsible, and, of course, the research career, and interminable list of other jobs, of the teacher. Super Light

simulations are not time consuming. They are also plagiarism proof. The low-cost and flexibility of super light simulations has been an important part of my motivation in writing this practice paper.

The aim of this piece has been to share a successful experience. While my experiments have been overwhelmingly successful, there have also been failures. In particular, one year I asked students to play the role of actual politicians in only slightly amended political contexts. This produced some very low-standard work. My super light simulations have worked best when some relatively clear theoretical ideas have been combined with an obviously fake context. I am very confident that super light simulations can and should be used more often in political science. I wonder to what extent super light simulations are prevalent and practicable in large classes in other social science disciplines. I have the impression that our pedagogical problems and opportunities are relatively similar and that light simulations like the ones described here could be effective in cognate subjects.

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Team Based Learning for enhanced engagement in larger class settings: Experiences of business school staff and students

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Abstract

In order to enhance student engagement, Team Based Learning (TBL) (Sweet & Michaelsen, 2012) was adopted by a group of four business lecturers at an Irish third-level institute. TBL (a student centred, team-based pedagogical approach) was a new departure for both lecturers and students. Survey findings indicated that students (N=94) were generally positive about the impact of TBL on their learning. Focus groups with students (N = 6) and lecturers (N=3) identified how the quizzing component of TBL was seen by students as a key driver of engagement with content and with peers. Overall, the in-class engagement levels in large classes were observed by lecturers as being transformed positively. The authors conclude by sharing reflections about challenges of facilitating TBL in larger classes. The need for a technological solution for quick sensemaking of data from students is seen as paramount, along with strong facilitation skills.

Keywords: *Large classes; Team Based Learning; flipped classroom; student engagement; diversity*

1. Description of Teaching and Learning Context

Concerns for student engagement and intercultural integration prompted several lecturers within the Faculty of Business and Hospitality to adopt the TBL approach (Sweet & Michaelsen, 2012) during the 2017/2018 academic year. Lecturers had noted that student engagement with content prior to class was often lacking and that attendance could be improved (particularly in larger class cohorts). Peer-to-peer engagement during class, as well as student-to-lecturer engagement were also areas that faculty felt needed to be enhanced during class time to encourage higher-order learning outcomes within their modules. Finally, lecturers felt that the large lecture setting was also contributing to a lack of integration between local and international students. TBL was adopted within 4 different modules by 4 different lecturers: The

modules in which TBL was used were: Organisational Management (N=60 students); Auditing (N=70) Sales Management (N=21); and Management (N = 13).

A full, step by step, outline of what is involved in the Team Based Learning approach is beyond the scope of this article (see Parmalee et al., 2012 for a detailed account). In summary, TBL involves small teams of students working together for the duration of a module. Regular (assessed) individual and team quizzes are conducted in class to encourage student engagement with content (e.g. readings, videos) prior to lectures. Based on the quiz scores, lecturers can identify areas where students may require further clarification and scaffolding.

A mini-lecture tailored to the areas where students may need guidance then takes place. Following on from this, within their teams, students apply their learning to work on pre-prepared problems (e.g. relating to case studies) that they are required to solve together. Teams indicate their solutions to the problems simultaneously in class. The role of the lecturer at this point is to facilitate whole-class discussion (with the lecturer and between teams) in relation to solutions identified by teams. This process of pre-class preparation, quizzing, mini lecturing, group problem solving and whole class discussion is repeated for different sections of the module.

Lecturers viewed this process as being feasible for both small and larger class cohorts as it encouraged active learning, and personal development but did not require the use of extra lecturing or tutoring staff.

2. Literature Review

The impact of increased class size on the learning experiences of higher education students has been articulated by several authors. Increases in lecture class-size are associated with a reduction in quantity and quality of student-teacher interaction, poorer levels of student engagement with material, less student commitment to courses and lower levels of student motivation and participation in class (e.g. Biggs, 1999; Carbone & Greenberg, 1998; Ward and Jenkins, 1992). Larger class sizes have been hypothesised to increase students' sense of anonymity (Michaelsen & Sweet, 2012) and can encourage instructors to adopt a transmissive approach in their teaching.

The exposition of material in the form of a lecture can be effective in the right context, but can result in limited success when overused or used inappropriately (Good & Brophy, 2003). The evidence suggests that when higher-order learning outcomes are targeted, then more active learning methods can be beneficial. McKeachie et al.'s (1986) review of 17 studies comparing lectures and "discussion" methods of teaching found no significant differences between the two modes in terms of memorisation of factual content. Lectures were, however, found to be less effective for long-term retention of knowledge, transfer of learning to new contexts, development of higher-order thinking and student motivation. Freeman et al.'s (2014) meta-analysis of 225 studies found that active learning in undergraduate science, technology, engineering, and math (STEM) programs improved examination performance by 6% with students in lecture-based courses being 1.5 times more likely to fail. Such findings suggest that teaching innovations that can stimulate active learning can be of great benefit to students who can find themselves in larger

class sizes during their higher education experience. TBL is one such innovation, developed to address the need for active learning in larger classes.

TBL is used when instructors seek to nurture higher-order learning outcomes when teaching as opposed to the relay of information (Parmelee et al., 2012). Larry Michaelsen, (credited as the founder of the TBL approach; Balan et al., 2015) discusses how the challenge of ensuring student engagement within a larger class of 120 undergraduate business students (in 1979) was the initial impetus for a series of adaptations to his teaching approach (Sweet & Michaelsen, 2012). Michaelsen's experimentation with his teaching resulted in the TBL approach that is now adopted by instructors from many disciplines throughout the world (Haidet et al., 2014). Allen et al.'s (2013) survey of pharmacy faculty who use TBL in the United States found that 70% of respondents had used TBL for classes of over 100 students. Kibble et al. (2016) and Rajalingham et al. (2018) also present in-depth case studies of using TBL in classes of over 100 students.

Recent meta-analyses show support for the use of TBL in the third-level classroom. Liu and Beaujean's (2017, p. 1) meta-analysis of 38 studies that compared TBL with other methods found it was related to 'a little less than .5 of a standard deviation better academic outcomes than results from comparison pedagogical methods'. Swanson et al.'s (2017) meta-analysis found a moderate positive effect of TBL on content knowledge when compared to non-TBL comparison groups. Such findings support the use of TBL in large class settings.

3. Findings

In order to explore student engagement within modules that used TBL, a survey was designed to ascertain how students perceived TBL to impact their learning, their behaviour and the behaviours of others in the class. 94 of the students who took part in TBL across the 4 modules completed the survey upon conclusion of the module – a 59% response rate. In order to further explore how TBL can impact engagement 6 students and 3 lecturers participated in two separate focus groups facilitated by members of the Learning and Teaching unit.

The findings from the survey indicated that there was significant engagement when the TBL approach was adopted. 67% of students agreed or strongly agreed that "*team members contributed as much as me*" indicating that there were efforts made to work with each other in class. Students valued the discursive elements of TBL indicating that their attempts to achieve the stated learning outcomes of the course were helped by discussions that they had with both their team mates (70% agreed or strongly agreed that their learning was helped by this), and with the lecturer (79% agreed or strongly agreed that their learning was helped by this). Although self-reported, the findings suggest that the students felt that the conversations stimulated through the TBL course design were useful for their understanding of the content.

Qualitative data from questionnaires and focus groups help to illustrate how student engagement was impacted. Positive peer pressure and the regular assessments were deemed to encourage students to be more self-regulated, preparing for class sessions by proactively engaging with pre class content. Attendance was also noticeably impacted.

'Knowing that my performance can affect the grades of others, motivated me to study more so I don't let them down' (student)

'Team-based learning is way more efficient for me...at least every week then I'll try to study the stuff' (student)

'Linking the assessment generated considerable interest, certainly it helped from an attendance point of view' (lecturer)

'The increase in peer-to peer, and student-to-lecturer engagement was clear to all lecturers involved... [TBL prompted] discussion that you wouldn't get or you wouldn't hear normally in a classroom very often; particularly with a large group and particularly with students who are from different nationalities who might be less confident in group discussion' (lecturer)

'There was an awful lot more energy and engagement, we were in it together as opposed to me and them and so that was really good' (lecturer)

'I think that team-based learning really increases the amount of communication, so yes I think that's good for interaction between students and lecturers' (student)

3. Implications

In comparison to the traditional lecture, TBL sessions generate high levels of student engagement in terms of peer to peer discussion. Students are 'warmed up' by the team quizzes and a wider range of students can engage in class wide discussions. In larger classes, there can be a lot more contributions than one can encounter in the traditional lecture format. This can challenge the skills of lecturers, and so effective facilitation skills are required in order to provoke debate and discussion in a manner that is encouraging, respectful and impactful.

The quizzing elements of TBL can be administered in various different ways. These range from the use of 'self-assessment scratch cards' e.g. IF-AT scratch cards (Epstein Education, 2019) to more technological solutions e.g. classroom response systems (Sibley & Ostaficuk, 2014). TBL requires the lecturer to gauge data from quizzes 'on the fly' in the classroom. Making sense of quiz scores can become difficult and time consuming with larger cohorts. When there are larger classes the use of a classroom response system does become necessary. There can be a steep learning curve to develop the expertise and organisational skills to use the CRS system effectively but the transformation in the classroom experience for students and lecturers can make this increased effort very worthwhile.

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Enhancing the student experience in large classes: Facebook as a support tool for students in an enabling education

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Abstract

Higher education has embraced social media as a tool for: enhancing the student experience, improving engagement with course material and to develop social networks. As part of a global shift towards widening participation, the Australian government has implemented policy to promote representative access at University. As a result of this policy, the tertiary sector now has more diverse students entering via enabling programs. These programs are designed to build students' competency with the knowledge and academic literacies required for success in an undergraduate degree. However, there are a number of challenges present for enabling students; Guided in the concept of Communities of Practice, the aim of this study is to examine how a social media site may help offset some of these challenges and enhance the student experience for enabling students.

Keywords: *Inclusive pedagogy; large classes; Facebook*

1. Description of Teaching and Learning Context

Within the enabling program offered at UniSA College, students may elect to take Australian Culture and Society (HUMS1052), a foundation studies course that has over 400 students enrolled across multiple campuses. It is a course designed to provide students with an overview and introduction to sociology based within an Australian context.

However, regarded as a large class, Australian Culture and Society has experienced a number of challenges. Scott (1995) suggests large classes are connected to the rise of 'massification', a term that emphasizes the increase in student enrolment numbers seen in the last 20 years. Trow (2000) discusses massification as a process that has seen a move away from traditional elite forms of university where only the privileged and affluent could experience, to a space where there is now open access to university, irrespective of prior educational experiences and socio-economic backgrounds.

For students who enroll in pathway programs, they are often more likely to experience interrupted educational journeys and are come with a host of prior negative educational experiences that affect both their confidence as well as their ability as learners (Stokes, 2017). Australian Culture and Society has been designed using inclusive strategies to involve students from underrepresented backgrounds with University education.

Florian and Linklater (2010, p. 370) stated "Inclusive pedagogy focuses on extending what is ordinarily available as part of the routine of classroom life as a way of responding to differences between learners rather than specifically individualizing for some". Australian Culture and Society is a course that is designed to embrace and value students prior experiences, also known as "funds of knowledge" (Gonzalez, Moll, & Amanti, 2005). Inclusive teaching practice helps bridge the gap between students life experiences and connecting this to coursework, thus helping them feel more connected to their studies.

2. Literature Review

Although traditional face-to-face instruction offers many benefits for learning, time and space continue to be problematic for traditional education. The growth and development of online learning is one reflection of the changing attitudes to higher education and the move away from traditional face-to-face learning. When employed as a support tool, social media sites may offer distinct advantages and benefits for students not typically seen in the class room. Qi, Monod, Fang and Deng (2018) note that social media has become a popular topic in the literature and one of the fastest growing media platforms allowing people to communicate and share information (Pornsakulvanich, 2018).

Whilst there are a host of social networking sites available, Facebook is often regarded as the most prevalent social networking sites tertiary students typically engage with (Stutzman (2006). Pornsakulvanich (2018) suggests that Facebook has changed the way people connect with their social networks and allows users to not only maintain current and existing relationships but also build and generate new networks even if they have never met in person before.

Whilst there have been a number of studies that have explored the implications and affects Facebook has had within society and on its individual users it has only been recently that we have seen Universities employ Facebook as an education tool. With what has been a relatively young life, Facebook has already had a series of trials and tribulations to report. Yet, it still remains as one of the most popular social networking sites available, and of note to the current research is the primary tool chosen in this study to help understand student engagement, online activity and how that contributes to their education and student experience.

Eckert and Wenger (2005) define a community of practice "as an ongoing collective negotiation of a regime of competence which is neither static nor full explicit" (p. 583). Research suggests that communities of practice are in fact everywhere and that we may all knowingly and sometime unknowingly belong to them (Wenger, 1998). This may include being part of a community of practice at work, at home, in our leisure pursuits or as a student in education settings.

3. Implications for Practice

The range of positive student engagement and outcomes expressed on the UniSA College Facebook group is testament to the benefits this inclusive and innovative pedagogy can provide for large courses within enabling education.

Building student networks and providing a platform for them to interact, support and help each other in an informal and relaxed environment proves to be beneficial in this current study. Whilst retention remains a challenge for enabling programs largely due to the fact that many of these students have complex needs and are underrepresented in the wider student cohort. Large courses present a host of challenges to educators, one being the fact that many students can feel like a number rather than a person, resulting in student attrition. However a benefit of the Facebook group is that administrators of a Facebook group can track how students are progressing, what questions and concerns they are having and furthermore administrators can respond in real time in a relaxed and casual environment.

Students demonstrated strong engagement with the Facebook group and therefore consequently their studies. The sheer number of posts and discussions reflects their level of involvement, concern and consideration for their foundation studies, assessment and overall student experience.

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Summary of workshop output

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1. Introduction

Thirty-four participants attended the first PHELC special interest symposium which was held in Universitat Politècnica de València on 25 June 2019 as a precursor to the HEAd conference, 26-28 June. The workshop comprised traditional presentations, lightening talks, poster presentations and a plenary session. Each presenter produced a paper to support their presentations all of which are available in these proceedings.

During the plenary session, some of the issues raised in the presentations were explored by participants using the structure of the World Café Method (see Corrigan in these proceedings for explication of the World Café Method of organising and managing collaborative groups). It is the intention of this paper to summarise the outcome of the plenary/World Café discussions wherein participants shared their practice in the large class context.

2. Final plenary *World Café* discussion

Three tables were set up in the 'café', each provided with a theme to discuss; each theme focused on one aspect of large class teaching and learning. The following summary is structured as per each of those tables or discussion groups.

(a) Using digital tools/technology to enhance participation and engagement in large classes.

The discussion relating to technology enhanced learning (TEL) gave rise to two key themes: (i) how technology can be used to increase and enhance student participation and (ii) the use of technology to support and enhance assessment practices.

Student engagement was considered both in-class and between classes. For example, one participant described his use of Padlet to allow students in large class contexts to ask questions and the potential for peers to answer each other while he, the professor, could mediate the Q&A on this platform to ensure accuracy but also to use the content as a form of formative assessment of student understanding. The use of a closed group on the Facebook platform was raised by a few participants who felt that students were more comfortable using a familiar platform rather than one specifically used in the university context which could be perceived by students as 'clunky' and unattractive. One participant uses lecturettes whereby she consolidated hour long lectures into small bite-sized chunks using Loom and podcasts. Another presenter described the use of technology to allow students to upload two-minute videos wherein they presented one key idea from the module which was then shared with peers online. The use of 'badging' was also suggested as a way for students to monitor and acknowledge their learning progress.

While the theme for this table was enhanced engagement, really the bulk of the discussion reverted to the use of technology to enhance engagement in assessment specifically. Participants described the use of Clickers, Plickers and Kahoot! as useful tools to formatively assess understanding, both from the perspective of the teacher but also from that of the students themselves who could assess their own understanding in relation to their peers and in terms of the formative feedback from the professor who explained the accuracy of responses. One participant used Clickers as a formal element of a summative assessment; students responded to lower order questions first using Clickers and then reverted to pen and paper for higher order questions which followed on from the first part of the examination. Technology was also identified as an ideal way to provide written formative feedback to large classes. One professor described her use of Google Docs for collaborative group work when students worked in groups on different elements of the Google Doc and received written feedback on the document itself which they then used to improve their work.

(b) Best practice in assessment of large classes – formative and summative.

Assessment was an aspect of large class teaching that seemed to present significant challenge. Some participants shared some very specific practices:

Two-stage exam: One participant described her use of a two-stage exam structure whereby students initially completed a short individual exam and then moved to work with others in groups, in an open-book context for a group assessment.

Self/Peer Assessment: some participants structure tasks so that students can self-assess or assess the work of peers anonymously online in a blended learning large class environment. In some instances, a percentage of the summative mark came from peers which was then mediated by faculty awarding marks also. Rubrics were provided for students when assessing their own work or the work of others. It was thought to be particularly useful for accelerated format courses when the turn-around for results was quite quick.

Online quizzes: Online quizzes, utilizing a range of formats, were considered by some participants to be useful and necessary in the large class context, for both formative and summative assessment purposes. For summative purposes particularly, they require a large bank of questions which can be presented to individual students in any order. Formatively, they provide the opportunity to provide feedback to the students.

Some participants in this group felt that it was important to assess the faculty's pedagogical approach to assessment during the module and when possible, to use that feedback to enhance practices.

(c) Teaching approaches and strategies for large classes.

One of the key issues emerging at this table was the anonymity of students in large classes. One professor addressed this by asking students to upload their picture along with their name onto the course management system because he felt that students feel valued if the teacher knows who they are. He also tried to find out students' interest in and prior knowledge of the subject at the beginning and used

evaluations of previous students in relation to how their learning developed to inform his teaching of a new cohort. Discussion fora on Moodle were also used to establish understanding and to provide a foundation for face-to-face sessions with the large group. There was some discussion on attendance, with many in this group identifying it as a problem. Some used systems such as in-class quizzes which were not anonymous as a way of encouraging students to attend, while others found invited guest speakers positively influenced attendance. The necessity for attendance was met with disagreement by some participants who felt that the content of face-to-face sessions should be made available online to all students. Another participant had explicitly aligned attendance with in-class tasks which were presented at random throughout the semester and only one of which would be chosen to contribute to the overall summative assessment.

Conclusions

While the final plenary, World Café session at the end of the PHELC workshop was structured in such a way that each table discussed a different aspect of large class teaching, it is fair to say that many of the discussions overlapped and were inter-linked. The most persistent theme appeared to be assessment, both formative and summative assessment. Hence, it is our intention to focus the next PHELC symposium on assessment in the higher education, large class context.

