

Title: Using technology to increase engagement in large synchronous learning environments

Introduction:

Keeping students engaged in learning in large classes is a perennial problem. The rise of the ‘bring your own device’ generation has seen a proliferation of experiences where students may be physically present in the room, but not cognitively engaged in their learning, preferring to chat to their friends (email, wechat etc) or catch up on the latest release movies, tv shows, youtube clips. And while many of us have adopted strategies of moving around the room while teaching, and introducing a more facilitated approach to teaching (rather than the ‘sage on the stage’ stand and deliver from the front of the room approach) some students continue to turn up to class but choose not to cognitively attend the class. In a synchronous online environment, the distractions and disinhibitions are compounded. Students can ‘hide’ away with their camera’s off (or non existent) removing any social pressure to attend and engage. These environments challenge us as educators – as we use physical cues to monitor student engagement and receptivity of content. In face to face environments, teachers often observe ‘real time’ feedback of engagement by way of facial gestures, twitches, and other subtle and occasionally less subtle cues and clues. Cues such as an increase in ‘sideline’ chatter among friends, lack of eye contact as we roam the room, or phone ‘glow facing’ are all cues that student’s attention has waned, and their engagement is low. Reading these provides the teacher with a ‘sense’ that the class is engaged, understanding or at least not asleep.

The purpose of this PDW is to introduce how Socrative platform can be used as an engagement tool both online and in face to face classrooms. We will demonstrate how this platform has enabled us to gauge the pulse of the room and make real time adjustments to our

teaching practices to address student needs. PDW participants will be given the opportunity to experience the use of Socratic both as a participant/'student' as well as develop the skills to be able to design an interactive teaching session that uses a variety of time based, open engagement and fact checking processes using technology.

Theoretical Foundations/ Teaching implications

The last 10 or more years have seen a rise in the use of 'real time' technology in the classroom. The growth and influence of the EdTech sector however, often results in a 'technology for technology' sake mindset. Technology, any technology it often seems, is presented as 'THE' answer rather than as a tool to enhance student learning and engagement. Proponents of educational technology argue that as Millennials and Gen-Z students have grown up in technology enabled environments, educators need to enhance learning environments using sophisticated technological solutions (see for example Leight 2006). However, technology itself does not facilitate learning or engagement, it is the integrated use of technology which needs to be considered and designed to address more fundamental concerns specific to the course or program of study. Hence technology must be utilised as a solution to teaching and learning problem of delivery and engagement. The use of technology in the classroom must recognise how learning environments influence student engagement (Bransford, Brown & Cocking, 2000).

This workshop focuses on classroom and delivery mechanisms to engage students through deliberately designed learning activities and interventions. For the purpose of this workshop we narrow the definition of engagement commencing with Hu and Kuh's (2002: 555) definition as "the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes".

In face to face classes, teachers often seek to engage students and gain feedback through a traditional and informal 'show of hands'. A show of hands prompts students to

indicate their understanding or agreement and at worst is a technique designed to get the student to 'move' or at least be brought out of a daydream. Even professional presenters in the popular 'edutainment' space use this technique by asking the audience "who agrees, disagrees or is not sure". Seeking real time feedback in this way is often advocated as a sign of students exercising 'voice'.

Over the last 10 years technology has enabled a move away from 'hands up' to more formalised and planned 'check points' while teaching face to face classes. Early use of more 'clickr's where each student was given a device so as to enable them to interact with a predetermined set of questions, has evolved to the BYOD environment with the use of phone based apps such as Slid.o, Padlet and Nearpod. These technologies are often promoted as a new practice or innovation rather than their more prosaic reality which is to address the perennial dual concerns of student engagement and 'real time' feedback on learning. They are presented revolutionary rather than evolutionary by the technologists representing them.

The move to fully online teaching as a result of the global pandemic, has meant that the facial cues and clues are now lost. While an informal poll provides a quick 'hands up' experience' it provides little by way of data to act upon while teaching beyond a yes/no dichotomy. Our shift to online environments has led to a lack of incidental opportunities to interrupt to seek clarification of misunderstood concepts. This means that teachers need more than a planned silent pause to check understanding or pace of learning. Particularly in large class settings (regardless of delivery mode), students may be reticent to ask questions or interrupt. They may have questions or need further clarification but are too inhibited to ask the question.

When working in online environment the problems are extended. The temptation to multi-task by students in online learning can be reduced by requiring students to engage in some activity, where that activity provides real data to guide teacher interaction and

interventions. Synchronous online teaching approaches alone would not be able to replace the methods previously used to engage, interact and build rapport with our students. There is a need to look beyond one platform, but also innovate the use of technology to build the engagement.

Technology as a solution.

Teachers often have little time to be digitally curious. Often technologists offer solutions without deeply understanding the andragogical implications and inherent learning outcomes sought. Technology offered as a 'holy grail' often requires a teacher to spend too much time learning how to use the software losing focus on the real purpose of the teaching is to learn, apply and adapt knowledge of (in this case) management and organisational behaviour. Technology should be an enabler, not the driver of how course learning outcomes are delivered.

Platforms such as Zoom, Teams and Blackboard have integrated tools such as polling which at best leads to dichotomous answers or a multi choice but stays in the schema of the instructor lead direction rather than providing the students with a voice and freedom of answer as would be afforded in a face to face classroom. Further, even in a face to face class only the brave or extraverted students have this voice while the more introverted or less confident students are left behind.

Taking an andragogically informed approach we were looking for a mechanism that address our concerns of:

- understanding content;
- giving students voice;
- engaging students to provide feedback;

- provide data for teachers to use both in real time and to plan for future delivery and information;
- understand attendance patterns; and
- provide the opportunity for thematic analysis of student sentiment.

The Socrative platform can be used to measure understanding, create inter student competition in answering questions and engage students with content. However, upon deeper consideration, the technology enabled far more. By using ‘teacher-paced, short answer quizzes we were able to gather information from the students in a large international online class (~175 students). With students able to provide a free form answer, insight to their key concerns could be heard. This provided greater insight than polling or multichoice activities. Further, thematic analysis of the responses meant that cohort communications (post class) were tailored to address student need.

A further upside is the choice of student anonymity or student details allowing the teacher to personalise information and teaching. By requiring names or enrolling users, teachers have valuable data on attendance as well as possible engagement, which can assist in the teacher adapting their messages and interactions with the student cohort both individually and as a cohort. For example, where we see a student asking multiple questions via email we can check against this data to encourage attendance. Or where a student answers a question in a manner that suggests they have not read or understood information already provided it prompts further investigation to personalising responses based on class interaction. No technology solves the presenteeism of a student being there but not engaged, however providing the ability for the student to tailor their answer did lead to higher and more in-depth responses. In many incidences, Socrative use lead to approximately 97% of those

students logged onto the class engaging with the activity. Thus both presenteeism and activity can be discerned.

From a data perspective Socrative provides information as it is received, both in terms of how many students are logged in and have answered, but more insightfully it provides their feedback as a 'live feed'. Rather than a silence while students use the software, there is an opportunity to talk to the themes or the queries as they are posted in a 'live twitter style' interaction. Run concurrently with polling software it can offer the students the chance to 'multitask' on the work at hand, engaging rather than being distracted elsewhere.

The Workshop - Learning Objectives, Engagement & Takeaway

In this workshop we would like to demonstrate the use of Socrative as a tool for engaging students in learning and as a means of capturing data on learning. We will integrate the use of the Socrative platform to model the types of activities that can be used in the classroom. In this way, participants will both use the software as a participant/'student' as well as develop insights and strategies as to how to use the tool pedagogically.

The learning outcomes: Participants in this PDW will:

- Explore the creative use of Socrative platform
- Experience how Socrative can engage students in learning
- Understand how to use Socrative as a live feed to inform your teaching in real time.
- Develop confidence to be able to explore further uses of the platform.

The take away: Participants will leave the PDW with an understanding of the andragogical arguments for 'real time' interventions to engage students, as well as build familiarity with the functionality of the Socrative platform, and build confidence to

commence their own exploration as to how they could integrate this tool in their own classroom to gather student information and further engage students.

In this workshop participants will have the opportunity to both experience and then utilise the platform to prepare for classroom use. See Appendix 1 for proposed agenda:

Conclusion:

Socrative for in class engagement enables a teacher to ask short answer, multi choice and open-ended questions. It provides flexibility to both the student and the teacher to interact. Further insights such as how long a student engages with the answer provide a mechanism for instructors to better engage with student needs both immediately and as a means to follow up, provide support and direct future teaching actions when used to its capability.

Our teaching practice, in the face of the global pandemic had to evolve and change quickly. Technology will also continue to be used and evolve. However, the use of technology needs to address an educational problem, rather than drive the delivery. As educators, more than ever, we need become digitally curious. But with so many competing demands on our time, we need to be instrumental when looking for answers. Adapting off the shelf technology to engage our students in a digital community of learners where their voices are heard and answered, is one way we can address andragogical problems without ‘reinventing the wheel’.

Appendix 1 : Proposed Agenda

<p>Introductions and initial activity</p> <p>The participants are sent into an open Socrative room to first pulse check, this two question Socrative session asks:</p> <p>How are you feeling?</p> <p>If you could gain anything today what would it be?</p> <p>This immediate use demonstrates how easy access the tool can be but will also provide the basis of the data upon which to progress.</p> <p>Debrief of the data collected – demonstrates the ease of translation of the information into actionable teaching</p>	15 mins
<p>Demonstration and discussion:</p> <p>Participants are shown various tools within the platform for example space race and live open questions. Pop quiz, true false and even exit quiz</p> <p>Discussion of ‘teaching strategies’ such as preparing banks of questions ready for use and enrolling students vs open access</p>	10 mins
<p>Small break out rooms activity:</p> <p>Brainstorm how you might use Socrative for your teaching style.</p>	15 mins
<p>Trial and use:</p> <p>Pairs of participants set up and an activity to provide practice at operating the platform</p>	15 mins
<p>Final debrief and next steps</p>	5 mins

References:

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