The PowerPoint Free Classroom:
Passivity, Engagement, and Student Perceptions

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Abstract
Student passivity has become a problem in higher education classrooms and much of it may be caused by lecture and presentation style. PowerPoint™ has become ubiquitous as a presentation tool and is used in millions of lectures and presentations daily. There is, however, controversy regarding its use and criticisms range from charges that it reduces the analytical quality of presentations to a claim that it inhibits presenter – audience interaction. The paper discusses both criticism and support for PowerPoint™ and concludes that the conflict emanates from the paradox of its use as a presentation medium within a social constructivist milieu. Accordingly, research was conducted into the effect of the removal of PowerPoint™ as a transmission medium and its replacement by a constructivist and performative mode of teaching in two undergraduate modules at an Irish university. 136 students were involved in the sample over a 12 week period they participated enthusiastically in a flipped classroom approach including peer and collaborative evaluation and the eschewal of PowerPoint™ as stated. Data following the exercise were collected using focus group and the survey method. Results showed a preference for the revised approach including perceived increased engagement on the part of students.

Keywords
PowerPoint, Engagement, Students, Higher Education, Passivity
Passivity and PowerPoint™
Student passivity exists (Sidelinger, 2008) with non-involvement apparent within the classroom. This notion of ‘passive learning’ (Petress, 2008) denotes that students tend to sit in a classroom listening to lecturers, taking notes and memorizing these notes for the final examination without any form of engagement (Chickering and Gamson, 1987). According to Hermann (2016: p.175) ‘lack of student engagement is a widespread problem’. This has become prevalent across University classrooms with Cutler (2007) acknowledging this ‘creeping passivity’ and highlighting a real concern that students may be ‘coming to believe that they are not intellectually responsible for themselves’ (Cutler, 2007: p.7). Many lay the blame for this trend at the door of the lecture method that has PowerPoint™ at its core.

PowerPoint™ has become ubiquitous as a presentation tool and is used in millions of lectures and presentations daily. There is, however, controversy regarding its use. Criticisms range from charges that it reduces the analytical quality of presentations (Tufte, 2003) to a claim that it inhibits presenter – audience interaction (Driessnack, 2005). Some researchers have suggested that the conflict may be resolved by its “intelligent use” (Mayer & Moreno, 2003). Advocates of PowerPoint™ cite student preference as justification for retaining and improving the use of the tool (Frey & Birnbaum, 2002).

The paper discusses both criticism and support for PowerPoint™ and concludes that the conflict emanates from the paradox of its use as a presentation medium within a social constructivist milieu. Paradoxes are usually resolved by moving to a higher level of thinking (Lewis, 2000). Accordingly, rather than debate the use of PowerPoint™ this paper recommends eschewal of such pursuits towards an emphasis on the higher goal of effective teaching. In parallel with the journey towards more effective teaching, it is proposed that lecturers should conduct an examination of the meaning of social constructivist pedagogy in modern university classrooms.

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Support for PowerPoint™

Microsoft PowerPoint™ is popular. Its use has become widespread with the proliferation of computers and has now become an “almost ubiquitous practice” in university settings today (Babb & Ross, 2009:868). Apart from it being a tool of choice for lecturers, students also seem to appreciate it. Students’ perceptions of the lecture, their own self-esteem, confidence in learning and estimates of how much is being learned are greater with PowerPoint™ presentations than with other media (Armitage, 2009). Savoy et al. (2008) note that in research, students preferred PowerPoint™ to other presentation media. (Babb & Ross, 2009) also report that learners increasingly demand that their lecturers use PowerPoint™ and request that they also provide printouts of slides as a study aid. Learners may prefer PowerPoint™ as they may see it as the lecturer drawing their attention to the points which must be learned for examination purposes. PowerPoint™ presentations are thus seen by students as being better than those that employ more traditional formats such as whiteboard or chalkboard (Frey & Birnbaum, 2002).

Some authors conclude that lecturers should try to construct more effective and pleasing PowerPoint™ presentations (Apperson, Laws, & Scepansky, 2006). Such proposals suggest that any problems with the tool are mainly to do with its use or misuse as the case may be. Another implication is that PowerPoint™ advocates who use the tool principally and extensively as a presentation medium do so from a philosophical perspective that is positivist and transmissive in nature. As a result, such suggestions for the improvement of the tool are rational and a continuation of this trend should be anticipated.

This is indeed what appears in the literature. Apperson et al. (2006) discuss the physical layout of slides and lighting issues in lecture rooms. Other research has concentrated on the timing the distribution slides to students and suggests a schedule of delivery either digitally or in printout form to maximise both attendance and attention (Babb & Ross, 2009) (Vallance & Towndrow, 2007). Savoy et al.(2008) suggest “intelligent use” of the tool linking its use to the type of content being discussed. These researchers unproblematically accept the role of PowerPoint™ in the classroom as a presentation medium and seem to ignore the pedagogical and philosophical issues that may arise regarding its use (Adams, 2007).

Criticisms of the tool

Despite its popularity PowerPoint™ has been roundly criticised. Its detractors describe how it affects the nature of the learning interaction and teacher and student performance. Tufte (2003) describes the deleterious effects the tool has on the analytical quality of presentations and declares how harmful PowerPoint™ is to spatial reasoning and graphical communication. Adams, (2006) delivers a comprehensive and thoughtful piece on the silent non-conscious effects of PowerPoint™ on unsuspecting teachers. She argues that the tool subtly affects the practice of the unwary, that even the most reflective of tutors may be unaware of being seduced into the world of the “pitch” and ultimately a form of positivist epistemology that perceives teacher presentation as learning.

PowerPoint™, initially, was not designed for teaching purposes but for business presentations. On examining the default templates in PowerPoint™ one is taken by its purposeful design reflecting the hierarchical organisational structure in the world of
business. In that world, functionaries summarise data in bullet point format and present to their seniors for decision. Knowledge, therefore, is to be apprehended, distilled in essence, and delivered quickly and in précis form to a passive audience using PowerPoint™ slides. The elements of the PowerPoint™ tool which make it so apposite for the summary and the briefing note seem ill-suited to the needs of the academic teacher and learner. It is understandable that social constructivist lecturers problematize the use of PowerPoint™ in teaching situations. The tool, in its use as a presentation medium, emphasises roles for both student and teacher which are seemingly incompatible with social constructivist pedagogy.

The Effect Our Tools Have On Our Teaching
Advocates of PowerPoint™ perceive the tool in an unproblematic manner. Problems which may arise are perceived as being much to do with its misuse (Vallance & Towndrow, 2007). Caution, regarding its use, is rarely expressed and then only to remark that there is no established link between student preference and actual exam performance (Savoy et al., 2008). Regrettably in some journals, student reaction is seen as a reason to continue to improve PowerPoint™ (Apperson et al., 2006). The tool is therefore, seen as neutral, if not benign.

Technology is rarely neutral however. Both our technology and the spaces we inhabit in the built environment speak to us and shape our thoughts and behaviours in ways unseen. The lecture halls in which we teach reflect a paradigm of learning philosophy. The straightened benches facing forward speak of a model of apprehension of learning which is transmissive and submissive. The teacher and the taught are moulded as they enter these rooms and apprehend through osmosis the non-conscious ideology of its environs. No space, therefore, neutrally surrounds its inhabitants:

“when we walk off a crowded street into a cathedral, our whole demeanour changes even if we are not alert to it. We relax in its cool darkness that solicits meditativeness” (Dreyfuss & Spinosa, 2003:346 cited in Adams (2006)).

Thus, when we use technology such as PowerPoint™ to achieve teaching goals we are often unaware of the subtle changes that are taking place until we have fully integrated the tool into our working lives and practices. We may later wonder how we ever did without it, but by this time it has altered, in a significant way, our execution of the teaching task.

PowerPoint™ as a presentation tool implies seeming incompatibilities with social constructivist teaching. This tool endows the power to point to objects of importance to the teacher. That action of pointing draws the eye of the unlearned to some awareness level which doubtless could have been achieved in more philosophically consistent ways. In the pursuit of speed and coverage of curriculum the student, however, loses the richness of discovery learning and perhaps the priceless opportunity to develop as an autonomous learner. The teacher becomes habituated to the reductionist practice of the condensation of knowledge and of explication though bullet point.

Technologies often contain within them their own paradoxes. Arnold (2003:232) refers to the “Janus faced” mobile phone which both liberates and leashes us at once. PowerPoint™
creates the paradox of the presentation tool that both shows and hides information at the same time. As a presentation aid it facilitates us to summarise knowledge for digestion by others. In this way it excels as a transmission device. The paradox lies in what it loses or leaves behind in the format of its execution. The teacher is forced to make tough choices about what will or will not fit on to one slide; text is cropped to avoid cluttering up the image. Crucially, swathes of information are abandoned so as to conform to the style and prevent overload – communicating knowledge by omitting it.

Paradoxes may be resolved through moving to a different level of thinking. Lewis (2000) recommends acceptance, confrontation and transcendence. Acceptance of the paradox leads to the recognition that social constructivist pedagogy requires an accommodation with PowerPoint™. Lecturers may seek therefore, to operate the tool within a social constructivist pedagogy. Confrontation may provide the basis for progress towards more progressive forms of pedagogy (Niaz, 2008). Transcendence suggests adopting the Einsteinian approach that “the aim [of instruction] must be the training of independently acting and thinking individuals.” (Einstein, 1954:60). Thus constructivists must seek the higher ground, debate the meaning of constructivist pedagogy today, and refuse to allow a purist position to become an obstacle to effective teaching (Matthews, 2000:497).

**Purpose of This Research**
Conflicts regarding the use of PowerPoint™ in the higher education classroom emanate perhaps from the paradox of the tool’s use a presentation medium within a social constructivist milieu. This paper recommends an emphasis on the higher goal of effective teaching. With this emphasis it is vital that we, as educators, should conduct an examination of the meaning of social constructivist pedagogy in modern university classrooms. To begin with we should consider our use of PowerPoint™.

PowerPoint™ is everywhere in the higher education and it is leading to increased passivity among students. However, it must not be blithely assumed that its removal will be met with raucous approval of the student. With technology comes change which can be challenging for students who have been accustomed to the same or continuous form of pedagogy and learning at third level. (Adams, 2006) discusses the habits of mind as ‘that which we as humans find ourselves doing. We become accustomed, habituated to things, we get used to them over time’ (p.394). Interestingly students enter third level education and have become accustomed to modes of teaching such as the delivery of lecture notes by PowerPoint and the testing of knowledge through assessment or a terminal examination. This mode of teaching and learning becomes so engrained in the student’s mindset with their ultimate goal focused on a good grade performance / degree classification (Kuh, 2001). Ultimately this learning experience should and could be a two-fold approach, with good engagement and good grades. According to Chaves (2006) student engagement is linked to academic success.

Based on this review of extant literature this research therefore challenges the trend of the ‘creeping passivity’ induced by PowerPoint™ by introducing a more active learning approach. In doing so this study seeks to eschew conventional technologies, namely PowerPoint™ in an attempt to combat passivity. Despite the widespread use of the tool, the power and value of PowerPoint™ has been called into question by educators and
practitioners alike (Tufte, 2003; Frey & Birnbaum, 2002; Savoy, Proctor & Salvendy, 2008). Acknowledging the waning power of the predictable PowerPoint™ at third level, and despite its ubiquity, over the years educators have attempted to make a change such as to redesign the style that the PowerPoint slides take (Alley & Neeley, 2005). As a result, this research has chosen to defy the norm of the PowerPoint and to go 'PowerPoint free' (Adams, 2006). Accordingly this research is guided by the following research question:

RQ1 - Does the PowerPoint™- free classroom increase student engagement?

RQ2 - Does the use of a PowerPoint™ substitute, i.e. Padlet, increase student engagement and learning in the classroom?

Regardless of whether an educator utilizes the tool or chooses to go PowerPoint™-free, the ultimate goal to engage students. Technology (of all forms) has emerged as one way to engage students in learning and to enhance their skillset. Technology tools such as student response systems or electronic voting systems have been used to engage students particularly in larger class size settings but ultimately to augment or enhance student learning (Draper & Brown, 2004; Latessa & Mouw, 2005). This initiative advances this notion, and utilizes a technology tool in the form of a proprietary file sharing tool, Padlet, to engage students and to replace the over-reliance in the higher education classroom on PowerPoint™.

**Method**
The sample population comprises final year undergraduate learners pursuing a business degree in two modules, MN321, Change Management and Organisation Development and MN317, Negotiation Skills and Conflict Management, conducted at a third level Irish Institution. There are approximately 136 registered students between the two modules. Both modules were 5 credit events running for 12 weeks in Semester Two 2015/2016. Each class ran for the duration of 2 hours each week. The consistency of delivery was ensured as both courses were conducted by the same tutor (one of the co-authors). Both modules were taught without the use of PowerPoint™ by lecturer or students. In both modules, lecturer and students used a substitute presentation system - the proprietary file sharing system, Padlet, to present work.

In preparation for the gathering of student perceptions, two focus groups were conducted, mid semester, to understand what was going on as students were experiencing this new form of teaching and learning. Two focus groups were carried out with 4/5 persons, consisting of both male and female students taking either one or both of the aforementioned modules. Students were very relaxed and fully engaged in the discussions surrounding their own learning and in class experiences over their years of study to date. Questions generated for the focus group derived from original literature on learning, assessment and control (Dancer and Kamvounias, 2005; Kuh, 2001; Savoy, Proctor and Salvendy, 2008). These focus group findings generated further learning issues which assisted in the preparation of a survey at the end of the module designed to collected perceptions from the wider group. These issues were not merely related to PowerPoint™ and although they were pursued and explored, they are not the subject of this paper and are thus not detailed here.
All students were invited to participate in focus groups many agreed to do so. Surveys were administered using the proprietary software tool, Survey Monkey. This was done at the end of the semester with an email notification about the survey being released to students to prompt completion. In total surveys were issued to 136 students, with a 39 students completing. This is a response rate of 30%. The survey was designed to be applicable to all students whether they followed either or both of the modules in question. The sampling technique was aimed at students in third year who were undertaking either module, therefore the sampling was purposive (Bryman & Bell, 2007).

Ethical considerations were dealt with in advance with the students for the focus groups and survey research. All students who participated in both the focus groups and or the survey were made aware of the voluntary nature of their participation and that failure to complete would not affect their module grade in any way. In addition, each student was informed of the confidentiality of participation and that all data collected were for research purposes only. They were informed they could opt out at any time and pass on any question or topic (Bryman & Bell, 2007).

**Presentation of Findings**

The focus groups were conducted to understand current learning and teaching experiences. There was an acute awareness by students that they had become normalized to learning in certain ways as they stated “we have been conditioned to learn that way for like the whole, 18 to 20 years, so it’s a bit hard to change that...” This is further supported by a fellow student who stated, “Yeah, you come from secondary school, you’re not taught to think about learning, you’re just, read this and just vomit on to another page, and that’s what first and second year was as well. And then we’re now put into a completely, total different scenario where we’re now, now we have to think how we’re going about this and then it’s just, it’s different but you adapt to it pretty quickly but sometimes I would define it as a culture shock”. These is also an expectation held by students that information received is structured and clear, with a desired lecture being as follows, “The delivery of information like the lectures are chronological, they’re uploaded the week before or whatever and the information is then, there’s no new information in class, well to the extent there’s no surprises and it’s easy to follow, it’s just simple and organized”.

This structure is largely facilitated through the delivery of lecture notes on PowerPoint, but this may come at a cost of engagement, “I like it a lot, when PowerPoint’s up I feel like it’s a lazy man’s game like you just sit back and say, aw just going to copy this down at home like, do you know what I mean, and I can do them neater at home... whereas PowerPoint’s kind of you tend to zone out a bit more and might not pick up anything as easy like”. This lack of engagement and thinking is reiterated by a second student, “Yeah, it does, it’s your comfort blanket, you’re like, oh it’s grand, I’ve got my PowerPoint, I don’t really need to listen today”. Students did welcome engagement in the classroom with the majority of students agreeing that “Engagement as well is a big thing, I mean especially like, say for, some lecturers we have they’re really engaging so they make the learning experience easier for students”. With a perceived positive outcome as a result of engagement by students as “You see your grades go high as well, with the more engaged lecturers and you see the attendance higher as
well”. Engagement is also linked to creating an environment where students feel that they can ask questions as well as respond to questions.

Based on this initial focus group, questions were formulated to assist in the survey of all students attending all one or two of the discussed modules. Students were initially asked if the absence of PowerPoint increased their engagement in the classroom. Ultimately this resulted in 50% agreeing, the remainder uncertain or disagreeing.

A second question asked students if the use of Padlet increased their learning and engagement in the classroom. There was a significant 70% in agreement that Padlet did increase learning and engagement, in contrast to 14% in disagreement and 14% uncertain.

Another question asked students how this level of engagement (in either module undertaken) compares with that of other modules. 63% voted higher, with 26% lower.
A fourth question asked students whether engagement enhances their learning. This result showed overwhelming 91% of students agreeing that engagement enhances their learning.

The final question was an open question asking students their opinions on what they believe causes passivity in undergraduate classrooms. The central themes emerging around PowerPoint™design/format, lack of clarity of module and examinations, relevance of content to industry/student and or Lecturer’s enthusiasm and communication style with students. Suggestions also emerged to address passivity and these included student presentations and the use of technology, such as Padlet in this research study, “Padlet really helped curb passivity in the classroom”.

Discussion & Analysis
This study posed two research questions:

RQ1 - Does the PowerPoint™- free classroom increase student engagement?

RQ2 - Does the use of a PowerPoint™ substitute, i.e. Padlet, increase student engagement and learning in the classroom?

It is apparent from the research findings that passivity is an issue for students at Third level (Sidelingir, 2008). The findings have highlighted numerous reasons for student’s passivity or lack of engagement, with lack of clarity (Titsworth, 2004) lack of lecturer enthusiasm (Baer, 1997), ready-made lecture notes that fail to stimulate students an example of the facilitators to passivity. Active learning is believed to involve interpersonal interaction
between students and others (Chi, 2009) with student control, autonomy, self-regulation and power relationships are often seen as important.

The question of the PowerPoint™-free classroom reducing passivity received a positive response – 50% of participants agreeing that it did reduce passivity, 20% could neither agree / nor disagree with the remainder disagreeing. It is clear from this research that some students have become conditioned if not reliant on this form of lecture delivery to the extent that it was described as ‘a comfort blanket’ and presents ‘no surprises’ to students. The findings support Adams (2006: p.394) belief that PowerPoint facilitates ‘a clear, concise and complete lecture from start to finish’ but findings do suggest that students are using the clearly structured lecture notes as preparation for examinations (Frey and Birnbaum, 2002) at a later stage and are ‘zoning out’ in the classroom as a result of not seeing the immediate need to learn (Tufte, 2003). Also, worryingly it was the lecturer’s delivery of the PowerPoint™ that appeared to disengage students, with students citing lecturers’ communication of material as ‘not entertaining’, ‘boring’ or ‘regurgitation’ as reasons for students switching off. Again, this refers to the belief that “While students are ultimately responsible for their own learning and level of engagement, effective student engagement also depends on institutional conditions, policies, and culture that enable and encourage students to get involved” (O’Brien, 2016). It is therefore important that the lecturer is responsible for making sure that the environment is right and encourages learning using a variety of teaching methods (Baer, 1997).

The role of technology and the use of Padlet in this research were perceived by participants as positive, one participant commenting that “Padlet really helped curb passivity in the classroom”. The use of Padlet provided a fun, engaging and novel way for students to work in a peer and collaborative setting as an antidote to PowerPoint. It was on in the reflection of their use of the Padlet technology that students realized that it facilitated for a wider development of their skill set when assessing other students, for example, “It forces us to listen, it forces up to think of other opinions out there, their content that they write or whatever” and “It also teaches how to give feedback, people can take feedback the wrong way, we’re kind of like, you know. You try to be as nice and constructive as possible at the same time”. This was reinforced by another participant who suggested, “Learning how to constructively criticize somebody without hurting their feelings or taking into consideration that they might take it as a personal attack and then just kind of smooth that over, transitioned, I think that’s what it’s for, I could be wrong”.

Limitations & Future Research
The sample is a convenience sample and not fully representative of all undergraduate business students or the student population in general. There is also the limitation of being located in Ireland. Future studies should extend the research to other settings. Comparisons of examination results with non-participating classes may also yield interesting results. The population sampled also where in their final year and it was evident that they were heavily preoccupied with their ‘end result’, which did taint the discussion of the early focus group discussions. Therefore future research should focus on different year groups at undergraduate level (Year 1 and Year 2). Changes to the normal class procedure with these modules also included the use of collaborative peer evaluation and this may have had an effect on student perceptions.
In terms of technology, this approach, (using Padlet) etc. is also facilitated with the availability of Wi-Fi in classrooms, Survey Monkey availability at the university, and students’ access to smartphones and similar devices. Increases in mobile technology and internet connectivity speeds are key enablers for the technology to succeed. The research suggests that in order for changes such as this to succeed, students must feel a part of the decision-making process. One other aspect that was not addressed in this research but emerged as a critical factor in eradicating passivity and building engagement was that of the lecturer. Future research should provide an opportunity for lecturer’s voice in providing feedback in the engagement process going forward.

Conclusion
The purpose of this research study was to explore one way in which we as educators could tackle the issue of creeping passivity (Cutler, 2007) in our classroom through the disposal of the ubiquitous PowerPoint™ tool. The research demonstrated a higher level of cognitive and behavioural engagement through the passage of the modules concerned. Further work is required in addressing the dual responsibility of both lecturer and student in the facilitation of a learning environment. In our ICEP conference we emphasise our theme Voice of the Educator: Connected and Inclusive Learning Environments. Such a theme is evocative of Pearse, 100 years ago who stated that, ‘The teacher should not bring his pupil a set of ready-made opinions or a stock of information, but so infectious an enthusiasm as shall kindle new enthusiasm’ (Nolan, 2016). This research suggests that the extensive use of PowerPoint™ in our higher education classes should be reviewed within a spirit of inclusion and engagement of students.
References


