‘How can we integrate students’ use of mobile phones and interactive technology within the lecture lesson plan in order to improve engagement?’

Zoe Hinton
Product Development and Buying Lecturer, Fashion Business School

May 2016
‘How can we integrate students’ use of mobile phones and interactive technology within the lecture lesson plan in order to improve engagement? ”

Zoe Hinton
Product Development and Buying Lecturer, Fashion Business School

May 2016

Contents:

1. Abstract pg 3
2. Context pg 3
3. Issue, Method and Rationale pg 4
4. Results and discussion pg 9
5. Conclusion pg 14
6. References pg 15
7. Bibliography pg 17
8. Appendix pg 21

Figures:

3.1 % of 8-18 year old who own electronic devices pg 5
3.2 Heart beat at significant points in lecture pg 8
4.1 Student survey- How long before students were distracted pg 10
4.2 Student survey- How many times mobile devices were used pg 10
4.3 Student survey- What mobile devices were used for pg 11
1. **Abstract:**

The more time students spend as active participants in learning activities, the more they learn.

The student playing an active role in learning, as highlighted by Weimer (2009), is not a new concept and certainly not a revolutionary one, with educators worldwide striving to engage the student through various activities and techniques. However, the current studentship of 'digital natives' (Levy, 2014) continually cause debate between teaching staff, who are keen to address the impact of the ever-present mobile phone and its position within the classroom. There are opposing views on this; some believe that we need to adapt to this new student and the way in which they learn by harnessing mobile technology (Barrett, 2012), whilst others are acutely aware of the distraction that these devices cause and the therefore negative impact that they have on productivity (Beland & Murphy, 2015).

According to Briggs (2014), it is becoming increasingly apparent that technology is 'rewiring students brains', and that as a result, educators are finding mobile devices ‘impossible to ignore’ (Gerson, 2015). In this new world of constant connectivity (ISTE, 2014) it therefore becomes critical to ascertain whether integrating mobile phone use into the lesson plan, and therefore effectively exploiting the technology that they have in their hand (Herlong, 2015) will result in a more engaged cohort.

https://vimeo.com/167445013
https://youtu.be/bjOeur19RKU

2. **Context:**

Despite various opposing opinions on the subject, Honoré & Schofield (2009), remain of the view that Generation Y are in fact very adaptable to the technologies that surround them, therefore highlighting the opportunities for the use of digital platforms within the learning experience. Teaching historically has always focussed student behaviour and subsequent learning on external sources, with interactive technology being no exception. However, a familiar conversation amongst educators, both at UAL
and worldwide, centres on the fact that students are continuously glancing at mobile devices during lectures. Furthermore, in a recent study by the University of Haifa (2012), almost all students surveyed admitted to accessing social media via on their mobile devices during lesson time. In an attempt to manage this, teaching staff within the Fashion Business School are already beginning to integrate mobile use into lecture delivery, beginning to use various platforms to engage the (sometimes large) cohorts of students.

Furthermore, a survey of teaching staff across various levels of education further highlighted both the positive and negative impact of mobile phones; just over half of those surveyed claimed they were a ‘distraction’ and a ‘nightmare’ whilst the remaining half viewed them as a ‘help’ which ‘enhanced the teaching and learning experience’ (appendix 7.4). This paradoxical viewpoint was further supported through lecturer interviews who, referring to the aforementioned integration, felt that they had been a ‘useful tool’ due to the ‘instant reward’ they provided, yet also struggled to manage their use due to their ‘disruptive’ effect and the therefore subsequently negative impact on student engagement (appendix 8.6 and 8.7). From a student viewpoint via a focus group, it also was interesting, and perhaps surprising, to understand that the students themselves in fact viewed mobile phone use as a ‘distraction’, however found the ‘instant response’ that it provided difficult to ignore. (Appendix 8.5)

This study will therefore explore both the benefits and challenges of mobile phone use and interactive technology within the classroom. Various different perspectives are sought, not only from the students, but also from teaching staff at various levels of education, in addition to those in industry, in order to identify the optimum way in which we can use mobile technology to engage students.

3. Issue, Method & Rationale:

In order to understand the current generations ‘anytime, anyplace, anywhere’ communication culture, and its impact on the teaching world (Childalert, 2016), it
became necessary to explore mobile phone use not only at FE and HE level, but also within secondary and even primary education. Staggering statistics emerge from various data sources, not only that nearly one third of primary age children now own a mobile phone (Fig 3.1), but also that 20% of young peoples’ media consumption occurs via mobile devices (Rideout et al, 2010). Such statistics present a challenge for teaching staff right from these early years, where both parents and pupils are increasingly expecting a digital presence in their education, be it via interactive smartboards (appendix 8.4) or through basic computer access. Furthermore, it is clear that within Secondary education, the impact of mobile phone use gains momentum, with 85% of 15-18 year olds owning a device (Fig 3.1). In response to their subsequent impact on student learning, there is evidence that some secondary institutions are altogether banning mobile phones (Appendix 8.4) in order to reduce such distraction and refocus students attention, with Beland & Murphy (2015) highlighting the positive impact of this by reporting how student performance (in exams) after a mobile phone ban significantly increased. Those that do allow mobile phones within these levels of education do so under strict guidelines and with careful handling, ensuring complete autonomy of their mobile phone policies (Beland & Murphy, 2015) in order to effectively manage any distraction.

*Fig 3.1 (Rideout et al, 2010)*

In terms of therefore assessing mobile phone use and interactive technology at Higher Education level, it became clear that a student view on the subject of mobile phone use in the classroom was critical, and the subsequent focus group set up generated
interesting views on the subject. The students questioned were certainly of the view that their mobile phone was indeed a distraction, stating that they tried to keep their phone ‘out of sight’ in order to minimise any negative impact (Appendix 8.5). However, it was still evident that in some cases they nonetheless found them impossible to ignore and so intentionally used them in lesson time. This became even more complex when considering the integration of text alerts linked to user profiles and therefore visible on laptops, ensuring that even when mobile phones were removed, the issue remained due to the inevitable use of these other digital devices in the classroom (Appendix 8.5). In addition, the students’ viewpoint on the reason for using mobiles during class raised interesting issues, with students stating that their use of their mobile would depend on ‘how exciting the lecturer was’ (Appendix 8.5). Furthermore, they expressed significant frustration with teaching staff, highlighting how lecturers occasionally were visible using their own phones in lectures given by others (Appendix 8.5), reinforcing the points made by Gerson (2015) that it is necessary to ‘lead by example’ in order to demonstrate the use of mobile phones as a useful tool rather than a distraction.

When reviewing the interviews with academics at UAL, it also became clear that not only the students but also the teaching staff were demonstrating a very similar viewpoint, and further validating Purcell et al’s (2012) view of the current student population as an ‘easily distracted generation with short attention spans’. Teaching staff when questioned appeared unsure of their position on mobile phone use, with ‘mixed feelings’ (Appendix 8.6) on how to integrate such devices and technologies into the lesson plan effectively. They were clear that the students all were in possession of mobile phones so therefore they ‘may as well’ be integrated into the lesson plan, and were also of the opinion that students really enjoyed such integration (Appendix 8.6 and 8.7). However, still highlighting the devices as a disruption, the question of their use undermining the innate need for deep learning still remained. It was therefore clear that these although academics found them difficult to disregard, they were equally challenged as to how to manage them due to the impact of the current ‘attention deficit world’ (Appendix 8.7). Faced with this current and inevitable trend for multitasking, teaching staff were all too aware not only of the challenges mobile devices bought in relation to concentration, but also, in contrast, in their ability to bring
students together in their learning (appendix 8.7). It became clear, therefore, that staff required more direction on how ‘best to use them’ (Appendix 8.6) in order to explore their potential in the classroom (Hardison, 2013), subsequently harnessing them in order to create an ‘engaged and individualised educational experience’ (Levy, 2014).

In order to fully explore this area, it was deemed necessary to firstly deliver a lecture as a ‘control’ session, whereby delivery was run without digital intervention, and secondly to deliver a lecture whereby mobile phone use was fully integrated into the lesson plan, both of which would be subsequently reviewed and analysed. It was critical to ensure that the delivery without mobile integration explored other ways in which to engage the students, drawing on the work of Bligh (1998), who highlighted the importance of discussion, variations in auditory stimulation and the use of visuals as a successful strategy in ‘arousing’ and ‘motivating’ the receiver. Subsequently, the control lecture included discussion points, videos and relevant imagery at strategic times in order to ensure maximum engagement. These strategic discussion points allowed students several minutes to discuss a given subject which, according to Hayes and Hayes (2012), effectively restored attention and subsequently motivated the students for a further 15 minutes, wherein the next strategic activity took place. This again followed the work of Bligh (1998), whereby using a variety of teaching methods would increase heart rates and therefore demonstrate increased ‘arousal’ at critical points in the lecture (Fig 3.2).

In contrast, the ‘digital’ lecture contained not only the aforementioned more traditional methods of engagement, but also ‘multimedia rich’ content (Baturay & Bay, 2010) in order to engage the student. This approach involved expanding on the methods highlighted by Hayes and Hayes (2012) by incorporating testing throughout the lecture, however in this instance was delivered using the platform ‘Socrative’ to actively question the student at strategic points via their mobile phones (appendix no 8.14). Students were surveyed after both scenarios (Appendix 8.8 and 8.9), and the results extensively analysed to determine and ascertain whether this integration of mobile devices acted as a tool to improve student engagement.
Further to this lecture delivery and subsequently exploring both lecturer interviews and literature in more depth, it also became apparent that the use of mobile phones as a teaching aid could be explored more extensively. Lecturers discussed the use of several additional platforms, including Facebook and Poll Everywhere, which they felt were of benefit (appendix 8.6 and 8.7). Mobile devices to this end were highlighted as a ‘powerful tool’ by some (Levy, 2014) for improving engagement, however the work of others such as Bligh (1998) conversely highlighted that ‘dazzling presentations do not
necessarily result in learning’. Reviewing these two opposing opinions, it therefore become clear that to use mobile devices and interactive technology effectively and to maximum effect would mean a seamless combination of both digital and non-digital methods to ensure maximum engagement. In essence, it seemed that merging physical and digital worlds (Bailey, 2015) could potentially be much a recipe for success in teaching as in the retail environment that is taught in the Fashion Business School. Subsequently several other platforms were therefore incorporated into lecture delivery alongside more traditional teaching methods throughout the same term, with positive results being voiced by the students in the termly unit evaluation (appendix 8.11).

4. Results & Discussion:

The results of the surveys (Appendix 8.10) following both the ‘control’ and ‘digital’ lectures were enlightening, and worked to both answer questions and pose new ones for further research. Initially, the concept of concentration was addressed, with the feedback clearly demonstrating that the students felt that they were able to concentrate longer when mobiles were fully integrated into the lecture. 80% of the 40 students questioned in fact stated that they felt they were able to concentrate for 30 minutes or longer when mobile integration was included in delivery, compared to 30% of students before (Fig 4.1). Although this alone could indicate that student concentration indeed was improved by harnessing mobile technology within the lesson plan, paradoxically, when asked how often they looked at their device during the lecture (for anything that was NOT directed by the lecturer), the results did not particularly change (Fig 4.2). It appeared therefore that students were in fact not rating their concentration through how often they are glancing at or using their mobile phones, and therefore perhaps not seeing them as a distraction. It subsequently became apparent that students (perhaps subconscious) view of mobile devices was not necessarily as a tool that would detract attention, in direct opposition to the aforementioned student focus group carried out (Appendix 8.5). Reviewing the work of Barrett (2012), it therefore became clear that teaching staff and academics needed to fully adapt to the way in which this new generation was learning in order to fully
engage the cohort. To this end, the digital intervention was clearly a way in which student attention was improved; however the ‘depth’ of their learning remained an area which would require further research.

*Fig 4.1 (Student Survey Results, Appendix 8.10)*

Following this review of student concentration levels, it therefore appeared critical to determine what exactly the students were using their phones for when not using them to integrate with the lecture. Subsequently, analysing further data indicated that there was a definite shift in the content that students were viewing, switching from user-led browsing before mobile integration (i.e. social media and online shopping) to more
response-led content after (for example replying to messages via text and email). In fact, the use of ‘browsing’ across both social media and online shopping almost halved in the ‘digital’ lecture, from 29% collectively in the ‘control’ lecture to only 15% after mobile integration (Fig 4.3). This would further support the points made by the student focus group who stated that incoming communication ‘can’t wait’ and that the student felt a ‘need to respond’ (Appendix 8.5). This also made it clear that although integrating mobile phones into the lecture would not necessarily reduce the amount students were looking at their phones for non-lecture related material, it may be possible to navigate the cohort away from a more passive (and therefore disinterested) approach and so towards a more interactive learning experience (Khan, 2012). It seemed therefore that when integrating mobile phones and interactive technology into the lesson plan, allowing students to use them for the aforementioned response-led use may well have to be accepted and managed accordingly.

*Fig 4.3 (Student Survey Results, Appendix 8.10)*

It was also useful to understand which parts of the lectures the students found the most engaging, both before and after mobile phones had been fully integrated into the lesson plan. As outlined, it was critical to ensure the lectures incorporated not only the integration of mobile phones, but also traditional methods of engaging the students. As aforementioned, and following the work of academics such as Bligh (1998), Hayes and Hayes (2012) and Biggs & Tang (2011), building both the lectures therefore involved
planning strategic blocks of time where methods such as ‘buzz groups’, flip chart integration and video clips were used to fully engage and ‘arouse’ the cohort. Interestingly, although following integration of mobiles students’ view of the traditional means as the most engaging element reduced significantly (collectively the use of flip charts, video clips and discussion reduced from 68% to 15%), the lecturers style and delivery remained fairly consistent. Although in the ‘digital’ lecture, the opportunity to use a mobile device therefore seemed to in some parts replace the traditional methods, it also appeared to work in tandem with Bligh’s (1998) approach. This approach stated that although integrating mobile devices was clearly attractive for the student, the best route to interesting and therefore engaging a class remained as the lecturers themselves displaying interest and enthusiasm.

Furthermore, the students in the surveys both before and after mobile integration expressed very different views on the benefits of the interactive technology experienced. This could possibly have been due to a lack of experience on their part of the use of mobile phones in lectures, and therefore not being able to clearly reference what ‘integration’ of mobiles therefore actually meant for their lesson plan (in advance of the experience) and subsequently for their learning. Prior to mobile integration, over one third felt that being able to use their mobile to integrate with the lesson plan would improve their concentration and therefore learning, compared to 94% after the lecture in which Socrative (Appendix 8.10) was used. This statistic obviously highlighted the use of mobiles in lectures as a positive learning experience, and further supported Bligh (1998) in demonstrating the ‘desire for interaction’ amongst the student population. It seemed that once aware of the technology available via mobile phones in order to facilitate this interaction further, the students were fully engaged in the concept and felt it to be of benefit.

Following this, and reviewing the subsequent unit evaluation report (Appendix 8.11), it therefore became clear that ‘Bring Your Own Device’ (Hardison, 2013) as an initiative had been a positive learning experience for the students and that allowing them to interact digitally with the subject, tutors and colleagues seemed of benefit in terms of engagement (Elearning Industry, 2016). The students valued the opportunity to not only collaborate but also to use ‘shared cloud spaces’ (Appendix 8.11) in order to work with
other students, not only in classroom discussion but also on building content that could be used in future research (Appendix 8.15). Students feedback on the platforms used was positive, requesting more of the interactive methods provided (including Socrative), and highlighting the learning experience as ‘fascinating and engaging’ (8.11). In addition, they appeared very aware of the view of the student population as ‘never off their phones’ (Appendix 8.11), and fed back that the methods used were responding to the need for ‘connected learning’ (ISTE, 2014) which therefore highlighted their positive view on the approach. In addition, not only the use of mobile technology, but also the way in which teaching methods were ‘mixed up’ was highlighted as a positive, demonstrating how a seamless combination of both traditional and digital methods were again the most effective way to an engaged cohort.

Industry insight into the use of mobile phones was also gleaned, not in relation to lesson time but in regards to professional practice. Once again, the mobile phone was initially viewed as a distraction (Appendix 8.11 and 8.12) by those interviewed, and, in a similar fashion to that of academia highlighted how devices caused employees to lose focus in critical scenarios and meetings. In both interviews, mobiles had at times been resolutely banned from meetings, however this ban was viewed as both positive and negative in terms of its value. Mobile phones in industry, it seemed, were critical for keeping up to date with communication through emails and telephone calls, as well as being utilised for managing time through the use of diaries and planners. Once again, however, this information being so readily accessible was an issue, with devices once again being viewed as being ‘difficult to get away from’ (Appendix 8.12). In addition, although there was limited to no use of mobile phones being used within company meetings to engage employees, they were present in various other guises. Conferences seemed to have adapted the mobile phone as an engagement tool, in some cases making itineraries available only via an app, with no printed media subsequently available (Appendix 8.12). Furthermore, mobiles were stated as being integrated further at conference level with audiences able to send questions to key speakers via a twitter feed (Appendix 8.12). As also raised by Honore and Schofield (2009), those interviewed were of the impression that technologies like this could potentially impact on behaviour,
and that whilst they enabled more delegates to engage, there could potentially be a lack of any personal integration. Furthermore, mobile phones were being used in industry not only to communicate via email and telephone calls but also via platforms such as the Chinese WeChat, with such platforms allowing more instant replies which therefore rendered emails in such situations ‘pointless’ (Appendix 8.13). With such an integrated use of mobile phones becoming prevalent in professional practice, it therefore became critical not only to integrate their use during academic delivery, but also to ensure discipline and structure of mobile devices to ensure correct use when embarking on a professional career.

5. Conclusion:

In today’s society, and with Levy’s (2014) ‘distracted generation’ currently being taught, the research clearly indicated that it was critical firstly to keep pace with the way in which the student embraced technology, and also to ensure that the teaching methods used integrated mobile devices in order to deliver an engaging learning experience. Furthermore, the necessity to deliver this in a ‘organised’, structured and clear fashion whilst displaying ‘enthusiasm and passion’ (Appendix 8.4) is critical. The investigation therefore centres on two different threads; that of student engagement and that of the optimum delivery structure within a lecture.

As a result of this, it appeared that although students absolutely demonstrated better engagement and ‘arousal’ (Bligh 1998) through integrating mobile phones in lecture delivery, it was not this method alone that could deliver both a revolutionary learning experience and deep learning for the individual. Undoubtedly, integrating the mobile phone at strategic points was demonstrated as a tool increase student engagement, however and it became clear that it was both the structure and delivery style of the individual lecturer, as every academic would agree, that was of course critical. These two threads, however, were so intrinsically linked that the merging of both digital and physical learning was necessary to ensure an optimum learning experience.
It has raised questions of not only the students view on mobile use in academia, but also how to manage this within the student population, therefore highlighting the need for ‘classroom management systems’ (Hardison, 2013) in order to minimise the disruption these devices cause. Academics continuously refer to students who seem ‘addicted’ to their phones (Barrett, 2012) with the cohorts appearing unable to restrict their own use during lesson time. It is therefore critical that in order to manage this challenging behaviour, staff are able to integrate the devices in a productive fashion and so minimise the negative impact that these devices could pose on learning. It therefore appeared necessary to address tech-literacy within the Fashion Business School primarily, ensuring teaching staff shared the ways in which they can use mobile phones to enhance lecture delivery for the students. This has already been addressed, and new units have been planned to fully integrating mobile and interactive technology through the use of elements such as live Twitter feeds, Google Docs, Socrative, Padlet, Poll Everywhere and AV software. Subsequently, the curriculum has therefore been adjusted to ‘better accommodate the way students learn’ (Purcell et al, 2012) and so enable a more interactive learning experience.

As highlighted by Beland and Murphy (2015) and addressed extensively in this research project, mobile phones should ‘not be ignored’, but instead harnessed in order to improve student engagement in a way that encourages deep learning. Critically, the mobile phone needs to be viewed as a useful teaching device rather than a distraction, and integrated alongside more traditional methods for a fully immersive and engaging learning experience. The tools available via these devices, when implemented correctly, can enhance student learning, however their use must be closely managed to ensure that their impact is not detrimental to student learning.

6. References:


Beland, L P and Murphy, R (2015) ’Ill communication: technology, distraction and student performance’. Centre for Economic Performance


University of Haifa (2012) ‘94% of high school students using cell phones in class’, University of Haifa, Available at: www.newmedia-eng.haifa.ac.il/?p=6319 (Accessed: 8 February 2016).


8. Appendix

8.1 Research Proposal pg 22
8.2 Ethics Form pg 25
8.3 Teacher Survey Ethics Form pg 27
8.4 Teacher Survey pg 28
8.5 Student Focus Group pg 32
8.6 Lecturer Interview- Liz Bunting pg 36
8.7 Lecturer Interview- Jenny Wilson pg 39
8.8 Student Survey- Before Mobile Integration pg 43
8.9 Student Survey- After Mobile Integration pg 46
8.10 Student Survey- Results pg 49
8.11 Unit Evaluation Report pg 56
8.12 Industry Interview- Lee Braid pg 61
8.13 Industry Interview- Jo Byrne pg 65
8.14 Socrative Quiz pg 68
8.15 Padlet pg 71
8.16 Poll Everywhere pg 72