University of Hertfordshire
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The Learning and Teaching Institute

Blended Learning in Practice

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Editorial

Welcome to the autumn 2014 edition of our e-journal Blended Learning in Practice. In line with our change in focus for the journal we have in this issue four research articles from participants on our Post Graduate Certificate in Learning and Teaching in Higher Education (PGCertHE) programme. We also have an article from by Rebecca Meachin from School of Creative Arts looking at the use of video as way to provide student feedback. This is followed by our regular article on the student voice in which a PhD student reflects on his experience of study at the university.

Dominic Bygate

Within this edition:

Simon Baines from the School of Life and Medical Sciences looks at the background to problem based learning. He considers the evidence available from the literature with respect to its success. The enhancement of the student experience is considered and its relevance to teaching in the field of Life Sciences explored.

Kristen Coppin from the School of Physics Astronomy and Mathematics considers the role of the doctoral student supervisor. Drawing on the literature and her own experience she challenges the metrics used to gauge the success of doctoral student supervision. Kristen argues that a more collaborative approach to supervision has the potential to produce more rounded and more competent researchers.

Helen Barefoot

Claire Keates from the Department of Adult Nursing looks at how role-play can be used to improve the palliative care communication skills of student nurses. The relevance of learning styles is considered with respect to role play. The use of reflective techniques to examine one's own and others perspectives is discussed. The learning process is examined in terms of the clinical practice experience in addition to a university based one.

Jo Wiltshire from the School of Humanities discusses how the social media platform Twitter can be used as a classroom tool to improve the student experience of the university induction process. Jo examines the literature available and draws on her experience of using Twitter in her practice to support students. She discusses the issues and benefits of using Twitter with students and draws conclusions with respect to the use of Twitter as a tool for use in an effective induction experience and its wider use in the mass communications arena as a social media tool.

Rebecca Meachin from the School of Creative Arts examines how the use of Screencast videos can be used to give feedback to students. She examines some of the issues raised in the literature with respect to feedback, in

particular looking at the student perspective. The use of video feedback is examined and drawing on her own experiences of producing video feedback, conclusions are drawn.

Our regular student voice section is presented by Praveen Bingi, a PhD student from the School of Life and Medical Science. Praveen discusses his experiences of being a doctoral student at the university and reflects on the support and guidance he has received over the course of his studies.

We hope you enjoy reading the edition and welcome any feedback.

Helen Barefoot

Dominic Bygate

Simon Baines

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Simon Baines is a Senior Lecturer in Microbiology within the School of Life and Medical Sciences and has been in post since the start of the academic year 2013. Simon completed his PhD at the University of Leeds where he subsequently worked as a post-doctoral researcher, before moving to work in research and development in the NHS and then as a research laboratory manager in a UK biopharmaceutical company. Simon's research interests are in the areas of clinical and veterinary microbiology. He has contributed to curriculum design through his teaching and as a module leader on undergraduate and postgraduate level modules. Simon has been a Fellow of the Higher Education Academy since 2013

Kristen Coppin

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Kristen Coppin is a Senior Lecturer in the School of Physics, Astronomy and Mathematics and has been an active researcher in the field of galaxy formation and evolution since 2001. She completed her PhD in Astronomy in 2006 at the University of British Columbia in her native town of Vancouver, and subsequently took up postdoctoral research positions at Durham University and at McGill University. She joined the University of Hertfordshire in 2013. Kristen teaches on a range of mathematics modules and also supervises both undergraduate and graduate student projects. This coming semester she is looking forward to expanding her teaching portfolio to include a level 7 astrophysics module. Relatively new to teaching and to the UK higher education system, Kristen took it upon herself to take the full CPAD programme at the university. Her journal article was adapted from one of her CPAD module assignments. Kristen is an Associate Fellow of the Higher Education Academy.

Claire Keates

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Claire Keates joined the University of Hertfordshire in 2013 as a lecturer in nursing, working with a range of students from all fields of pre-registration nursing: adult, mental health, paediatric and learning disability. Claire has extensive experience in both clinical nursing and teaching having worked in a combined role as a specialist nurse practitioner in district nursing and a practice teacher with West Herts Community Trust. She co-ordinated and provided complex nursing care to patients in the home environment whilst training specialist practitioners in district nursing, pre-registration adult nursing students and supporting the learning needs of the wider nursing team.

Jo Wiltshire

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Jo Wiltshire is a Journalism lecturer in the School of Humanities, specialising in print, magazine, online news and feature writing, as well as social media as a journalistic tool. A former interviewer and senior writer for The Mail on Sunday, she continues to work as a freelance journalist, with a focus on parenting and family issues. She is also a published author of three parenting books, and provides expert comment for radio, web and the print press. Jo is an Associate Member of the Higher Education Academy and, having just completed a PgCert Learning and Teaching in Higher Education, will soon become a Fellow of the HEA. She hopes to further her research interests in the field of social media.

Contributor Profiles

Rebecca Meachin

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Rebecca Meachin is a part time Senior Lecturer in Sound Design and Music Technology in the School of Creative Arts. Her main area of research is in using technologies for teaching, assessment and feedback with a particular emphasis on how feedback can be provided to students by using screencasting. Rebecca hopes her research can be used to demonstrate how screencasting can be used for both formative and summative feedback and across multiple disciplines.

Preveen Bingi

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Praveen is an international student studying for a PhD in Molecular Biology and Pharmacology within the School of Life and Medical Sciences at University of Hertfordshire. He completed a Bachelors degree in Pharmacy in India before embarking on a PhD in 2011. His area of research focuses on basic pharmacology and molecular biology and its implications on cardiovascular diseases.

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Problem-based learning: its links to pedagogic theory and role in Life Sciences education

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Abstract

A major challenge in Higher Education in the biological sciences is determining the breadth of content that can feasibly be delivered to students given that scientific knowledge is ever-expanding. Problem-based learning (PBL) was introduced in the 1960s in medical education as a novel teaching technique to develop problem -solving skills using small group, self-directed study of meaningful problems. Half a century on, PBL is used worldwide in an array of disciplines and is believed to benefit students as a consequence of its alignment to many pedagogic learning theories. This review summarises the history, and educational process of PBL, and assesses how PBL links to pedagogic learning theory. Interspersed within this review of PBL literature are my own critical reflections, as a new deliverer of PBL, and also a consideration of PBL literature relevant to my speciality in the Life Sciences. Despite the theoretical benefits of PBL for students' academic progress, there is little high-quality research evidence from multi-centre international studies evaluating PBL against traditional didactic-format education to reinforce the perceived pedagogic benefits. However, one potentially less tangible benefit of a PBL approach to teaching in Higher Education is that the student experience is often enhanced. Improving the student experience is a priority at the University of Hertfordshire; therefore PBL approaches should be invested in and developed in modern institutions with diverse teaching and assessment approaches.

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Challenges in Modern Higher Education

Before considering PBL approaches to learning it is important to address the challenges which exist in Higher Education with regard to our evolving pedagogical knowledge, modes of teaching, and priorities for student skills/knowledge within our Universities and subject groups. Student learning is facilitated by educators at all levels in the education system in myriad ways, to an array of students, in a range of learning environments. Consequently, this creates a challenge for educators in selecting the most appropriate means of ensuring delivery of learning objectives to students' in an engaging and interesting way. Knowledge on the most effective ways to teach students, considering individual learning preferences and styles, has increased dramatically over the past four decades and educators must endeavour to ensure this knowledge is encapsulated in modules when designed, and when content is delivered to students. The mode of content delivery in Higher Education has changed remarkably over the last 30 years, from a time when the status quo was passive content delivery using traditional lectures, to the more recent use of delivery systems where multiple educational formats are used. Although lectures still have a valid place in delivering Higher Education, opponents of lectures argue that they do not stimulate learners to construct explanatory models and elaborate on newly acquired information, whereas modern theories of pedagogy/cognition emphasise active learning (Chickering & Gamson, 1987; Lian & He, 2012).

In his personal perspective review on teaching medical students biochemistry, Smith (2002) suggested a key challenge was to provide a firm knowledge foundation, which fostered students to be inspired so they were motivated to keep up with subsequent broader developments in the field (Smith, 2002). This is a universal challenge across the Higher Education sector and should be a goal for all educators, however challenging this may be to achieve. Deciding on the content to deliver in Higher Education which will provide this firm knowledge foundation for students, given the ever increasing depth and breadth of knowledge in all disciplines, is a complex situation. As educators we have a limited amount of face-face time with students and although we would like to keep students up to

date with all developments in a particular field, this is an unrealistic goal. We must therefore consider the teaching techniques that allow us to educate our students with the greatest efficacy while maintaining engagement and interest during and beyond our teaching sessions. Smith (2002) described the 'catch-22' that we all face as educators regardless of our discipline. The key foundation knowledge within any subject must be delivered, however students must also have the skills and opportunity be able to access, process and comprehend the latest developments in any field (Smith, 2002).

History of Problem-based Learning

Medical educators at McMaster University in the 1960s realised that biomedical sciences knowledge was expanding beyond that which could continue to be included in a medical degree. Additionally, educators were anxious to replace the passive and monotonous transmission of facts that were perceived to flow from traditional lectures, with an educational format with more active student involvement (Barrows, 1996; Neville & Norman, 2007). Students at this time were reported to be disenchanted with their medical education due to an overload of Information, and the perceived irrelevance of much of the content to future clinical practice (Barrows, 1996). Consequently, a major pedagogic shift was instigated which involved challenging students with clinical problems as a means of developing knowledge and skills (information searching/retrieval, critical appraisal, and self-assessment) in biomedical sciences through self-directed learning (Neville & Norman, 2007). This strategy is of course not a new one for humankind, which for millennia has been faced with problems that required considering and questioning in order that solutions could be achieved and consequently knowledge acquired.

In modern education, the earliest pioneer in delivering this educational format which was described as PBL in the 1950s was Case Western Reserve University United States of America, following which McMaster University in Canada introduced this format in 1969 (Boud & Feletti, 1991). Many now consider PBL to be the most significant innovation in education for the professions (Boud & 1991

Feletti, 1991), given the rapid worldwide expansion of this mode of delivery since its Inception PBL is not without its critics however, who consider that there is a dearth of definitive evidence to support the educational effectiveness of this approach over more traditional techniques, a view that will be discussed later in this review.

The PBL Hypothesis

PBL has a number of subtly different definitions and the issue of what is and is not strictly defined as PBL is a topic of substantial debate. Definitions of what is classified as PBL include:

"Learning in ways which used problem scenarios to encourage students to engage themselves in the learning process" (Savin-Baden, 2001)

"A way of constructing and teaching courses using problems as the stimulus and focus for student activity […] an approach to structuring the curriculum which involves confronting students with problems from practice to provide the stimulus for learning" (Boud & Feletti, 1991)

"Students use 'triggers' from the problem case or scenario to define their own learning objectives […] subsequently they do independent, self-directed study […] it uses problems to increase knowledge and understanding." (Wood, 2003)

"Students learn content, strategies, and self-directed learning skills through collaboratively solving problems, reflecting on their experiences, and engaging in self-directed enquiry." (Hmelo-Silver *et al.,* 2007)

The key components of PBL are visible in these quotes in that the problem/case is key to a small group learning experience, which is self-directed, i.e. without leading direction from a tutor, and that the goals of PBL are not just knowledge acquisition but also development of learning capability and skills (Boud & Feletti, 1991). Another key component of PBL is that the educational experience is contextualised for the student so they can perceive the relevance of what they are learning related to potential future professional challenges. Figure 1 summarises the characteristics of PBL achieved using didactic teaching.

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Learning through problem solving may instil in students more useable knowledge and competencies than those which can be achieved using didactic teaching methods (Engel, 1991; King, 2001). PBL can of course be incorporated into a curriculum many ways, ranging from hybrid-PBL, where PBL accompanies traditional format content, through to a complete PBL curriculum. An important terminological distinction was highlighted by Maggi Savin-Baden when defining the difference between PBL and problem-solving learning (Savin-Baden, 2001). The latter teaching method relates to where tutors give students a lecture, or an article to read and then problems are raised from this material (Savin-Baden, 2001).
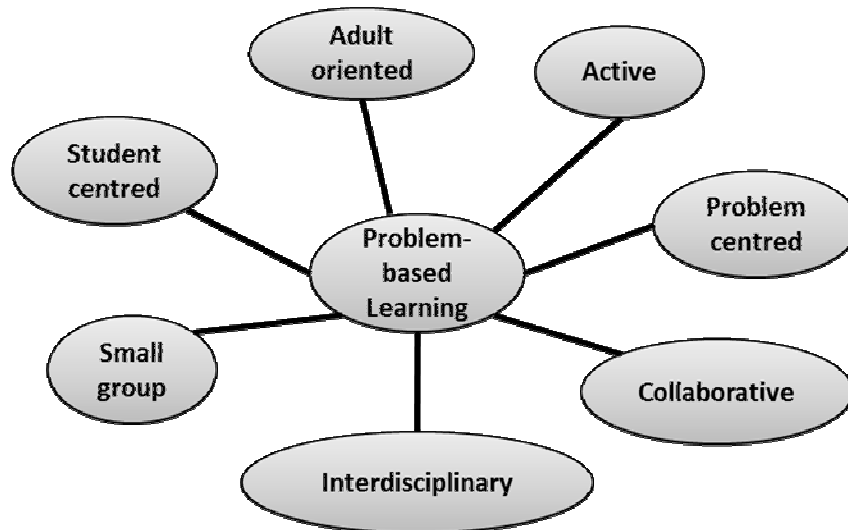
Figure 1. *General characteristics of PBL (adapted from Camp, 1996)*

PBL Process and Group Structure

Proponents of PBL have utilised student groups of 5-10 students (Camp, 1996; Neville & Norman 2007; Rosing, 1997; Wood 2003) and tutors must consider carefully the group structure given that sex distribution, prior exposure to PBL, and academic ability can all affect PBL group success. From a personal perspective I believe that a group of 5 is ideal to ensure that all students' views are heard and that contributions are as uniform across the group as possible. Several authors have defined the PBL process for group working, and a summary table of the '7 steps' is provided in Table 1.

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Step 1	Stimulus material used to present problem; identification and clarification of unknown terms in the problem
Step 2	Problem definition; views of whole group considered
Step 3	Brainstorming of problem using existing knowledge; areas of incomplete knowledge highlighted. No information from tutor on how to tackle the problem
Step 4	Review Steps 2 and 3; explanations arranged into tentative solutions
Step 5	Formulation of learning objectives; tutor ensures these are appropriate
Step 6	Private study to collect new information to inform learning objectives
Step 7	Group shares findings from Step 6 in next tutorial meeting

Table 1. *The seven steps to successful PBL group working (adapted from Rosing, 1997; Wood, 2003).*

Role of the Tutor

The shift from the didactic educational format to a student-led, PBL-based format presents a challenge for students and tutors alike. Tutors must act as activators rather than providers of information (Wood, 2003), yet despite this change in role, tutors remain essential in the PBL process (Mayo & Donnelly, 1995). It has been debated since the inception of PBL whether there is a necessity for tutors to be experts in the field of the PBL problem, or whether a non-expert tutor can still be effective. Indeed, McMaster University began their PBL implementation with non-expert tutors, and in the two subsequent iterations of the PBL curriculum since 1969, now recommend tutors are experts in the field (Neville & Norman, 2007). In my experience of PBL I agree entirely with this reversal in tutor expertise thinking, given that on occasion only an expert can effectively advise students on whether their deductions, calculations, and broader thinking around the problem are appropriate and to provide more effective feedback to the students. Mayo & Donnelly (1995) characterised the ideal PBL tutor as an activator of student learning who is prepared, trained, organised and amenable,

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and who students could be motivated and led by. I believe the skill that is most pivotal for PBL tutors is the ability to ask open-ended questions to the students in order to retain student focus on the PBL problem. It is tempting in PBL when confronted by a group who have reached a 'dead-end' in their thinking, to perhaps hint too directly about which sources should be investigated next. The tutor must be disciplined in this situation and by asking the correct question, can satisfyingly relieve the students' mental block and therefore develop their own critical thinking. Groves *et al.* (2005) demonstrated that qualified tutors used their subject knowledge to a greater degree and were more empathic than non-qualified tutors, and also that staff tutors emphasised exams more and were perceived to be more effective than non-staff tutors in facilitating an effective PBL environment.

Assessment in the PBL Process

Assessment in PBL may take a multi-modal format, including multiple-choice questions (MCQs), essay questions, oral examinations, and qualitative performance review by peers, self and tutors. Wood (2003) suggested that students' activities should be assessed within their PBL groups (summative and formative), and that reflection on the PBL process communication and contribution should be encouraged (Wood, 2003). This links well to modern pedagogic theory on the benefits to student learning of providing formative feedback to students (Gibbs & Simpson, 2004). MCQs are viewed as inappropriate by some PBL academics given that they may not assess desirable problem-solving skills that PBL aims to develop within students (Swanson *et al.,* 1991); although with more complex and interpretative MCQ examinations I believe that an assessment of problem-solving skills can be achieved. Multi-modal assessment is utilised in PBL at the University of Hertfordshire (Table 2) and I believe this confers several benefits. Firstly, I have observed that students may perform extremely well in written individual reports following a group PBL exercise, yet when examined by *viva voce* may struggle to pass that part of the assessment. This is indicative that for all students deeper learning may not be achieved. Secondly, a varied assessment strategy may cater for different learning styles of students. Finally, multi-modal assessment incorporating peer assessment ensures that the relative

input of each student influences the overall grade for the PBL; hence rewarding student engagement and increasing fairness.

The Industrial Biotechnology BSc (Level 6) and MSc (Level 7) modules at the University of Hertfordshire have employed a multi-modal assessment PBL approach for the past 10 years. BSc and MSc PBL assessments account for 25% and 17.5% of the final module marks respectively. The PBL exercises in each case are a technical data interpretation and a laboratory-based practical exercise.

Level 6 PBL exercise:
- Initial meeting where problem introduced
- Group rules formalised
- Groups (ca. 5 students) discuss problem and initial knowledge gaps identified
- Private study to address knowledge gaps
- Problem solution attempted as a group
- Individual written report submission
- Individual *viva voce*
- Peer and tutor assessment of input

Level 7 PBL exercise
- Same process as for Level 6 students except:
- Group submission of problem solution using a wiki
- Formative submission and feedback to students prior to final deadline
- Individual executive summaries submitted

Table 2. *Summary of the scheme for a PBL exercise from a Level 6 and Level 7 Industrial Biotechnology hybrid-PBL modules at the University of Hertfordshire.*

PBL: How does it Link to Modern Pedagogic Theory?

In the past 30 years our understanding of learning theory has increased profoundly. PBL is an approach to learning that, given the potential flexibility in both problem design and assessment, offers the potential to address many of the requirements for effective adult learning. It is essential that we as educators now appreciate that students may have different preferences for how they most effectively learn (Honey & Mumford, 1982). PBL aligns very closely to several

pedagogic theories of adult learning; however there is a leap of faith if we expect these benefits immediately translate to students, given some deficiencies in the supporting evidence.

The multifactorial arrangement of components within a PBL session; team working, study of scientific theory, discussion, problem-solving, and presentation, has the potential to benefit all of the types of learner defined by Honey & Mumford (1982) (activists, theorists, pragmatists, and reflectors), yet there is no published evidence linking learner type to PBL satisfaction and outcomes. In the mid-1980s, Kolb developed an inventory of learning styles and modelled this into a four-stage cycle that is fundamental in pedagogic science (Kolb, 1984), although it does have its detractors. It may be hypothesised that the PBL model of learning aligns very closely to that described by Kolb in that students: 1) experience the new PBL situation and can call upon some existing knowledge; 2) assess their knowledge gaps between their prior knowledge and their understanding of the problem; 3) can reflect on the PBL experience during the process, indeed this is suggested to be an important component of successful PBL (Wood, 2003); and 4) apply their new knowledge and concepts to the problem and also problems later in life.

Students who are intrinsically interested in learning material and tasks are focussed on understanding the links between concepts and prior knowledge and are likely to experience deep learning (Chin & Brown, 2000). Surface learning by contrast is experienced when students regard learning as a 'process to be completed' and resort to memorisation of facts in isolation rather than fully engaging and linking concepts as in deep learning (Chin & Brown, 2000). PBL is believed to stimulate deep learning and this inference is supported by research that has demonstrated better conceptualisation and linking of knowledge in PBL participants (Araz & Sungur, 2007; Wood, 2003). With deeper learning it is tempting to suggest that PBL may elevate students to climb further up the theoretical pyramid of Bloom's classification (Anderson *et al.,* 2001) of the tiers of learning. Indeed, in my experience of PBL there is certainly understanding, application, analysis, and evaluation by students in an effective PBL grouping, and other published evidence exists to support enhanced application of knowledge and

concepts by PBL participants. Furthermore, PBL links well with the principles of good practice in Higher Education detailed by Chickering & Gamson (1987); namely active learning, reciprocity between students, and appropriate time on task. As with many of the perceived benefits of PBL, definitive research data from well-designed studies to reinforce these benefits is lacking in the literature. Problem-solving skills are reportedly enhanced using a PBL approach (Klegeris & Hurren, 2011; Lian & He, 2002), although some conflicting reports exist (Norman & Schmidt, 1992), and problem solving does indeed require a greater level of understanding than might be achieved with a surface approach to learning. Therefore, using enhanced problem-solving skills as a proxy for demonstrating deep learning is not a substantial leap in interpretation, yet it is still a leap of faith. Active learning aligns closely to deep learning in that the learning process is engaged in by students in an active (not passive) way. My personal experience of PBL is that it works extremely well in stimulating active learning given that it is the responsibility of the students' to self-educate (under tutor guidance) and drive the collective knowledge within the group forwards in order to successfully address the problem; which may ultimately deliver better learning outcomes, self-belief and satisfaction (Romito & Eckert, 2011). The operation in PBL of students as inquirers rather than consumers of knowledge also supports well the 'Change Theory' model of education (Ovens *et al.,* 2011) which The Higher Education Academy is currently promoting.

Novak (1988) suggested that meaningful learning requires relevant prior knowledge and meaningful learning tasks (Novak, 1988). These prerequisites for meaningful learning are certainly encapsulated within PBL. Relevant prior knowledge is considered in Step 3 of the PBL process (Table 1), and although students may of course not possess this individually, in my experience it will likely be evident within a complete PBL group. This focus on activating and building upon prior knowledge and existing conceptual frameworks suggests PBL is a   constructivist approach to learning (Romito & Eckert, 2011; Wood, 2003), i.e.   students form meaning and comprehension from group interactions and   experiences in an active learning scenario. Constructivist learning has been   hypothesised to enhance engagement and empowerment of learning given that it

builds upon existing knowledge and ultimately provides enhanced knowledge acquisition and understanding (Peters, 2000).

PBL has also been assessed with regard to experimental evidence to support how it maps to recognised learning theories from psychology (Norman & Schmidt, 1992). The authors concluded in their review that initial learning was less extensive in PBL-taught students; however there was evidence that the knowledge retention period was extended (Norman & Schmidt, 1992). However, this study was a review of the literature and not original research, therefore given the reduced power of such studies, how much reliance can we base on these summations? Knowles (1980) evaluated the optimal conditions for adult learning and stated that: comfortable learning environments; mutual respect; freedom of expression; shared responsibility between learners; and active participation were all important (Knowles, 1980). These facilitating factors can all interact within a PBL session, I frequently use an informal setting for PBL sessions, which students find more comfortable, mutual respect and freedom of expression are highlighted to students, responsibility is shared between group members for acquiring relevant knowledge, and given the student-centred nature of the PBL classes in which I have been involved, active learning is clearly evident.

PBL is not without its potential drawbacks; many of which may be mitigated by thorough tutor preparation and tutor training. The pace of knowledge delivery in a PBL session or module is slower than a comparator didactic session, and as previously acknowledged, students may have reduced initial levels of learning. Also of concern is the limited breadth of knowledge that can be covered in PBL sessions in comparison to traditional lectures. Adoption of PBL is a major shift for educational institutions; both for staff and students alike, which may be difficult to adjust to initially (Jones *et al.,* 2013). Furthermore, it may be more difficult for the tutor to step into the role of facilitator rather than lecturer, indeed students have previously reported negatively about tutors who attempted to monopolise PBL discussions (Jones *et al.,* 2013). There are associated resource challenges that result from PBL sessions where a higher ratio of staff to students is required. A consequence asked the question, "Are there knowledge gaps created by PBL?"

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PBL problems can only realistically hope to target a limited number of areas in any one specialism, therefore problems must be of sufficient quality to maximise the learning potential for students and allow attainment of the learning objectives. Hybrid-PBL may provide the answer, i.e. combining lectures and PBL sessions, in order to fill any gaps in knowledge (Smith, 2002). Indeed, a hybrid approach is one that has been employed in my teaching at the University of Hertfordshire; the students still benefit from the self-directed PBL sessions but they receive an array of lectures in other areas of the subject to ensure broad knowledge. Another consideration should be that international students who have experienced very different styles of education (Valiente, 2008), may be challenged by the approaches to Higher Education in the United Kingdom, and as such may potentially need more support from the PBL tutor.

PBL in the Life Sciences

In the preparation of this review it has become clear to me that the majority of the studies performed involving evaluations of PBL are from the medical education setting. PBL has also been used in the Arts, Business Studies, Economics and Life Sciences (Boud & Feletti, 1991); however interpolation of observations from the medical education to other disciplines should be cautiously undertaken. Certainly in the UK, medical student acceptance grades to enter university are higher than for many other science subjects; therefore intrinsic academic ability, motivation and commitment between medical and science undergraduates may also differ. These differences could translate into varying observations from PBL sessions delivered in the same scientific area between these two student cohorts. For me as a Life Sciences lecturer I would like to see more well designed PBL evaluations on subjects relevant to my discipline to add to the weight of evidence in favour of implementing PBL, if not as a curriculum-wide innovation, at least in some content to ensure all students have the chance to experience PBL sessions. There are research studies and commentaries from Life Sciences subjects (some delivered to medical students however) that exalt the virtues of PBL and do report similar pedagogic benefits of PBL to prior studies from medical education, i.e. enhanced problem-solving, student engagement, motivation, concept acquisition,

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and academic performance (Anderson *et al.,* 2005; Araz & Sungar, 2007; Fardilha *et al.,* 2009; Lian & He, 2012; Perkins *et al.,* 2001). Engaged and empowered students should ultimately be students who have a more positive learning experience which is a major consideration for us as educators. However, other authors also caution over the lack of convincing evidence to support PBL improving knowledge acquisition or student motivation and facilitating enhanced application of scientific principles (Newman 2003; Rosing, 1997; Smith, 2002).

Conclusions

A challenge for high quality educational intervention research is that, unlike clinical trials of pharmaceutical products, it is difficult for studies implementing a PBL interventions to have closely matched control groups (no intervention), given complexities in the student cohort (prior education, academic ability, prior exposure to PBL, learning preferences). Furthermore, unlike medical trials, identical PBL interventions are unlikely to be implemented in multiple institutions over a wide geographical area, which again limits the power of the studies. Many of the perceived pedagogic benefits of PBL are theoretical and extrapolated from other learning theories, with reviews/commentaries often using statements like: "Through PBL students are <u>expected</u> to" (Blumhof *et al.,* 2001); "PBL <u>postulates</u> that" (Savin-Baden, 2001); "It is based on <u>principles</u> of adult learning theory" (Wood, 2003). What is evident from the PBL literature is that student satisfaction is more often than not enhanced in comparison to traditional teaching. The financial conundrum for Higher Education institutions is whether or not to move to implement PBL given student satisfaction benefits, balanced by the resource implications, curriculum turbulence and uncertainty over module outcomes in comparison to a probable stability in results achieved using traditional teaching. The delivery of education is not 'one mode fits all: Even with an apparently student-valued approach such as PBL there will inevitably be some who do not enjoy the group working, discussion aspects, or the shift in delivery style (Lee, 2001). PBL is an interesting mode of education which may benefit students; however, high-quality evidence in the literature is currently not there to fully reinforce this belief.

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Top 10 Tips to support BME student success

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What makes a good Ph.D. Supervisor?

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Abstract

The nature of the supervisory role in doctoral student supervision is poorly explored by current pedagogic studies. In this article I describe the main roles and responsibilities of a Ph.D. project supervisor, and the metrics that should be examined when determining whether supervision has been successful. I argue that the proactive, 'hands-on' approach, in which the relationship is less didactic but more collaborative, is the most effective means of producing competent Ph.D.s who will go on to flourish in a research or otherwise academic or technical career. I draw on the literature as well as my own experience as both a student and supervisor to shape my arguments, challenging the view that merely defending a thesis is the mark of success in a Ph.D. project that is fit for purpose. Ph.D.s who leave academia notwithstanding, long-term survival as an independent researcher should be considered a major factor in assessing effective supervision.

Introduction

Attaining the level of *philosophiae doctor* (Ph.D.) is the highest grade of 'assessed' academic achievement one can attain, requiring both complete mastery of a particular subject and creating new knowledge, contributing to the field in an original way (e.g., Connell, 1985). To complete the requirement of a Ph.D. programme in the United Kingdom, a candidate must undertake a substantial piece of new research and write it up in a substantial report (called a thesis), and also pass a *viva voce*, where the candidate orally demonstrates their knowledge of the subject and defends their work under the scrutiny of at least to two senior academics. The requirements of the assessment may vary slightly from country to country (for example, in Canada and the USA one has a public defence with a

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rather larger panel of academics in the audience), but the manner of assessment is always similar in vein. If the assessment is successful, the candidate is awarded a Ph.D. and with it, the honorific 'Doctor'.

In the physical sciences, the Ph.D. programme involves conducting new research using scientific inquiry and experimentation to investigate or solve a problem and to gain new understanding. In other words, a Ph.D. programme is training for research. In a manner akin to apprenticeships in skilled professions, Ph.D. students work under the oversight of a more senior academic who guides the thesis research. Since the training at this apex degree level is highly specialized by definition, the 'project supervisor' clearly plays a central role in the training and development of the student, with a strong presence in all aspects of learning throughout the degree. The benefits of this one-to-one student-teacher ratio are clear: it can provide a very individual, intimate approach, tailored to the particular needs of the student. A corollary is that the highly individual nature of the supervisor-student relationship also has some serious potential pitfalls. For example, the supervisor might lack the experience in how best to support their student, since the very nature of this didactic relationship is not `one size fits all'. How does a supervisor know what will work best? Is supervision considered successful if a candidate merely obtains a Ph.D.? Should there be any other metrics that can be used to judge if supervision has been successful or not?

To answer these questions, we must first determine what we mean by 'success' with regards to a Ph.D. student. Academic success in a teaching programme (say, a particular module at the university level) is normally measured solely by the learning outcomes being reached to a satisfactory level, determined through one or more assessment exercises. The learning outcome, in the case of a post-graduate doctoral degree, is that the candidate conduct, produce, and defend a substantial piece of new research within a fixed timespan (typically three to four years in the UK, longer in North America). There are two pieces of summative assessment: the written thesis and the oral viva. At minimum we can say that a successful supervision could be defined as one that has led the Ph.D. candidate to

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complete the degree requirements *on time* (Sinclair, 2004). However, there is additional evidence that such a simplistic view should not be the only learning outcome to consider when gauging whether supervision has been successful; there are many more nuances that should be considered, although they may be more difficult to quantify. In this article we examine the roles and responsibilities of the Ph.D. supervisor and student with a view to determining a way that doctoral students can achieve the fundamental learning outcomes with added value, as they move from apprentice to master through their degree path.

The purpose of this article is to challenge the view that simply completing a Ph.D. – what we may term the 'revolving door' criterion - is *the* measure of success. If the goal of the Ph.D. is to produce an able researcher, then the second (and often overlooked) measure of success should be that the candidate is in a strong position to obtain employment after the completion of their degree in their research field (e.g. Metcalfe & Gray, 2005). The supervisor plays a key role in the former, however, supervisors often do not concern themselves with the latter, at least not with the same level of attention. In my experience, this is because the latter can have several external factors that could be difficult to control. To provide context, first some of the different types of supervisory styles and pedagogies are examined to provide a review of the current thinking in this topic, and how this thinking originated. Then I evaluate and build on this knowledge and relate it to my practice.

Ph.D. supervision pedagogy: roles and responsibility

Lee & McKenzie (2011) describe research supervision as "neither simply teaching nor research but an uneasy bridge between both". This quote nicely summarizes the ethos of the student-supervisor relationship. On the one hand, the supervisor must impart wisdom and draw on their experience in teaching, what we may term 'tricks of the trade', and on the other hand, the student is expected to lead their own research project, and in doing so contribute to the overall research output of the supervisor's group. In my field, supervisors in a sense *rely* on Ph.D. students to bolster research activity: contributing to publications, conferences and

participating in wider research collaborations. In the highly competitive research ecosystem, by training highly competent students the most effective supervisors are rewarded with a dramatically strengthened research portfolio. This can result in a snowball effect: those effective supervisors have access to larger networks, better data, and – ultimately – improved resources for the training of future 'generations' of students.

Green & Lee (1995) also argue that "the role of supervision as teaching remains profoundly ambiguous", at least when compared to that of undergraduate teaching, which is patently true. However, while it might be true that it is the supervisor's role to 'teach' certain key skills, it must be recognised that at post-graduate and doctoral level the distinction between learner and teacher becomes blurred to the extent that describing supervision as 'teaching' at all is a distracting triviality. There is also the fact that graduate students may well teach alongside their supervisor, further blurring this distinction. Gatfield (2005) describes a particular style of Ph.D. supervision which takes on one extreme of a passive or "*laissez-faire*" approach, which leaves the student to fend for themselves under the assumption that the student already possesses all the qualities necessary for undertaking a Ph.D. in the first place. This 'tough love' style can work for some very confident, skilled, driven, and self-motivated individuals who are already independent learners – but this is likely to apply to a small minority of students in actual fact, as pointed out by Sinclair (2004). One important issue is that these traits are not necessarily intrinsic: although some students might have a natural aptitude for doctoral study, the skills of independent learning as well as critical and original thinking must be nurtured during the Ph.D. It is the fundamental responsibility of the supervisor to oversee this aspect of the training. In fact, the latter point is a crucial one. If we are to measure the success of a particular supervision in terms of the academic trajectory of a student in their post-doctoral career, if the student is not proficient in original thinking, they will not 'survive' as an independent researcher in an increasingly competitive environment.

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Lee (2008) explores the influences of a supervisor's approach to their supervision of Ph.D. students, using interviews with both supervisors and students. Lee (2008) proposes that there are two influences on the style a supervisor takes: 1) their own concept of what research supervision is and should accomplish, and 2) their own experience as a doctoral student (for good or bad). Lee suggests (and I agree) that a supervisor will tend to use their own experience on the flip side towards their own experiences as Ph.D. students. The 'hands-off' approach is, in fact, the supervisory style that I experienced in my own Ph.D. programme. As a result, I know it is not the style I would adopt for my own students. Indeed, for the majority of students, the `hands-off' approach is likely to end in slow or non-completion or failure. Not surprisingly, according to Sinclair (2004), supervision with a more `hands-on' or active approach, tend to produce higher proportion of Ph.D. completions and those that do complete do so on a more rapid timescale. This latter issue was noted by Adkins (2009) as one of the "increasing requirements for supervisors to be strategic, reflective and to prioritise timely completions".

As alluded to above, the `hands-on' approach has additional benefits for the supervisor beyond the completion of the programme: they gain a close research associate who will presumably continue to collaborate on research projects long into the future. The different supervisory styles described above have been summed up by Gatfield (2005) in a four-quadrant figure ("laissez-faire", "directorial", "pastoral" and "contractual"), and Gatfield (2005) and Sinclair (2004) suggest that supervisory style might actually evolve; starting at different points in this figure, but migrating during the course of a Ph.D. Thus, an important conclusion we should make here is that supervisory style could (and perhaps *should*) be fluid, adapting to the needs of a particular student, but also evolving as the senior advisor gains experience in the art of supervision.

This last point brings to attention a fundamental issue: usually academic supervisors have little or no pedagogic training. Often, supervisory skills are inherited: normal practice is to draw on one's own experiences (good and bad) and apply those in the supervision of new students. With this comes the danger that bad practices will persist without check, and while passing on good

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experiences are no doubt beneficial, there is also the risk of stagnation and complacency, in that new approaches and supervisory skills are not developed. One of the distinguishing characteristics of a good Ph.D. supervisor is therefore a proactive attitude in seeking out (for example) training activities that improve supervisory skills in the broad sense. The onus is also on the University itself in making available such training for the benefit of supervisors and students alike, as UH does with its Generic Training for Researchers (GTR) sessions.

What skills should a Ph.D. learn and how best to accomplish these?

Aside from the obvious technical skills relevant to the thesis topic that are developed over the course of the Ph.D., students are expected to develop fundamental transferrable skills such as technical and scientific reading and writing (e.g., Kamler, 2008), networking, presentation and time management. While these are critical to the success (and perceived success) of a Ph.D. candidate (e.g., see Nyquist & Woodford, 2000), they are not assessed in the same manner as the technical aspects of the work. Nonetheless, mastering these skills is undoubtedly essential for the future success of the student. It is therefore a responsibility of the supervisor to ensure these skills are developed over the duration of the programme. The supervisor can provide, in the nomenclature of Halse & Malfroy (2010), "scholarly expertise, *techne* and contextual expertise", and form three of their five 'facets' of a holistic model of doctoral supervision (which also includes the "learning alliance" ,and "habits of mind").

How might one achieve this in practice? A good approach is to start the Ph.D. with a small project that will yield rapid results (for example, a published paper or presentation at an international conference). This helps build confidence, motivation and momentum for the coming years, and naturally incorporates all of these skills. A shrewd supervisor will be able to design such a 'seed corn' project that will naturally feed-in to the Ph.D. thesis proper. In fact, it is becoming standard practice (at least in my own field of astronomy) for students to lead the authorship

of several peer-reviewed papers over the course of their Ph.D., each becoming chapters in their ultimate thesis. Echoing the points raised above, this requires a proactive, energetic supervisor with a `hands-on' approach. It is a conclusion of this work that good supervision should be focused on the process, rather than the outcome.

My own supervisory style has been relaxed at the start, guiding with a gentle hand and allowing the student to become comfortable in what is a new phase of their education. For example, I have communicated the research proposal, provided the data and a skeleton outline of the first paper, and lists of important reading for my student's initial project. While I have championed the hands-on approach, it is important to also allow the student the opportunity to take the initiative, recognizing that the requirements of the degree demand original research on the part of the student. Getting this subtle balance right is perhaps the greatest challenge for a supervisor, but it is also one of the most important, since it teaches the fundamental key skill of truly independent research. When a Ph.D. student can approach complete autonomy during their thesis project, they make an important transition that could be crucial for their future academic career. There is increasing time pressure in Ph.D. programmes (particularly in astronomy, but across the disciplines as well) that require supervisors to be mindful of the future demands that will be made of post- doctoral graduates. If the path to independence can be traversed *during* the Ph.D., all the better. Laudel & Glaser (2007) conclude thus: "To begin a career as an independent researcher requires more time for research than is provided by the standard academic position. Therefore, it occurs within extended Ph.D. phases or in research-intensive phases prior to academic employment". A counter-argument to this is that a good supervisor will make a Ph.D. student part of their research portfolio – echoing the theme of seeing the student-supervisor relationship as more of a collaboration.

Since the Ph.D. is a 'high stakes' degree, with nearly the entirety of the summative assessment weighted on the thesis and viva at the culmination of three or four years of work, arguably the most effective means of helping a post-graduate

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student develop their skills is through regular formative assessment via critical feedback on all aspects of their work. Students will generally receive verbal cues several times weekly from general interactions and informal meetings. More formal weekly meetings with others in the research group working on similar (and sometimes disparate) topics allow the student to share ideas and receive feedback from those other than the supervisor and wider supervisory group – mirroring what it will be like post-Ph.D. in the `real world'.

The scope of the thesis more often than not will produce several publications in academic journals. Without passing the peer-review process, papers will not be accepted for publication, and therefore any submission will be extensively critically reviewed and refined by the supervisor, as well as the collaborators (which could be a cohort of dozens of scientists from all over the world). This helps the student on their learning cycle as they receive critical feedback from differing (and sometimes conflicting) viewpoints and go through the reflective cycle to make improvements in the methodology or analysis or to clarify the discussion or conclusions and correct any omissions or errors (e.g., Kolb, 1984). Naturally this also helps the student develop the skills of technical writing and communication and principles of scholarliness that are the pivotal aspects of top-level scientific research. As an example, I see my student in person several times a week; sometimes this is to directly answer questions, to steer him in the right direction, or simply to help him learn how to perform a task or the methods required to search for information or data they require. Feedback is therefore natural and ongoing.

Indeed, this type of interaction is one that is fundamental to the collaborative scientific process, and arguably should be seen as something beyond merely formative assessment. Interestingly, with regards to what is perceived by student and supervisor as adequate interaction, a study into the provision of Ph.D. training by the Wellcome Trust (Frame & Alen, 2002) found "a mismatch between student and supervisor perceptions; while virtually all supervisors reported that they met frequently with their students, around a quarter of students described problems

meeting with their supervisor". Perhaps this reveals a flaw in the nature, or at least perceived nature of the supervisory role: it is often seen as common practice to meet with a student at a fixed time on a fixed day each week (for example). Often this is practically sensible: it allows scheduling of 'quality time' for discussion, and regular tracking of the project progression. I would argue that a more flexible 'open door' approach is just as successful (or simply to have a dialogue with the student as to what they would prefer), and helps dismantle the academic hierarchy that inevitably exists (Chickering & Gamson, 1987) – but must eventually be surmounted – between supervisor and student as they move from `master-apprentice' to colleagues. Again, this signals an important transitionary phase in the student's academic progression.

In general, the type of formative feedback delivered in relatively informal, regular meetings serves another purpose: it allows the supervisor to explore and identify knowledge gaps, or areas that need improvement. With no intermediate summative assessment, it is essential to monitor this as the thesis project progresses. I find I am continuously performing formative assessment and providing feedback, almost unconsciously: if the student poses a question, I can press them to test their understanding, or tell them the correct answer and direct them to relevant articles or reviews in the literature. Verbal feedback is somewhat ephemeral, but written assessment can be provided when the student presents a draft of a paper; as I would with any collaborator, I will annotate it to clarify points or to rework a section, add in missing details or correct errors (both technically and in the written English). The feedback-refinement cycle continues, perhaps for several iterations, until the piece of work is deemed ready for submission to a peer -reviewed journal. This general approach helps the student see the trail, or process, of research, and is another example of the multiple levels of learning being achieved in the supervisory process.

Conclusion

As Gatfield (2005) comments, "The sparsity of literature specifically related to the supervisor suggests that the supervisors are assumed to know what makes the

supervision process successful". This view stems from the `ambiguous' nature of the supervision role (Green & Lee, 1995; Lee & McKenzie, 2011). I chose this topic because I have just entered a new phase of my research career in which I am supervising my own students. With my inexperience in this aspect of my work, I hope to glean a clearer view of how I can excel as a Ph.D. supervisor – for their own good as well as mine. In this way, the supervisor can thus also be seen as `learning' and developing, and that having a student is also a sign of a supervisor's own transition in their academic career. What has been made clear is that the student-supervisor relationship is naturally collaborative, or 'co-productive' (e.g., McCulloch, 2009), and each of us can benefit from the other (both immediately and in the longer term; I still collaborate with my own Ph.D. supervisor for example). The exact nature of this relationship will of course vary from student to student, year to year. It is that innate individualised tutorship that makes Ph.D. supervision so rewarding. What has been explored in this article, however, is that although supervision can bend and sway to the specific needs of a given student with the exact nature of the teaching tailored to a particular student, the overall study aims and outcomes should remain – and indeed should be expected to be – the same for all.

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How can role-play be utilised as a learning strategy in the education of pre-registration nursing students to support their clinical communication skills in challenging palliative care conversations?

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Abstract

Role-play is a form of clinical simulation that takes an experiential approach to student learning. This paper will focus on how role-play can be used to improve the palliative care communication skills of student nurses. The paper will reflect on experiences from a session developed for second year student nurses that incorporated role-play as a strategy to increase student's communication skills and their ability to self-reflect. Consideration will be given to the student's academic and emotional safety, and how role-play can be employed to best meet the student's learning styles. Recommendations are made on how role-play can be incorporated into pre-registration nursing programmes to meet the ongoing needs of students and health care services, and the need for a more joined-up approach to learning between universities and clinical practice.

Setting the Scene - Palliative and End of Life Care

The Department of Health (DH, 2008) identifies the need for all staff involved in end of life care to be competent in communication, acknowledging that different types of health care practitioner will require different levels of communication training, based on their likelihood to interact with those who are dying. However, the DH (2008) fails to consider the role of student nurses in this care. Student nurses are situated in environments where they are highly likely to come into contact with palliative and end of life care; hospices, elderly care ward, acute medical assessment, nursing homes, accident and emergency, community nursing, surgical wards and intensive therapy units, often in their very first placement. Completion of the Nursing and Midwifery Council's essential skills clusters, (NMC, 2010a) places students in close proximity to patients, with high levels of patient contact, offering significant opportunities for patients to confide

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and share important information. Preparation for these moments is imperative to protect both student and patient safety.

Seventy percent of the half a million people who die each year have not discussed their end of life wishes with anyone. (National Council for Palliative Care and Dying Matters, 2011). Managing difficult conversations is a challenging aspect to giving good palliative nursing care. (Shannon et al., 2011). Done well, communication in end of life care enables patients and their families to feel supported and valued, share their concerns and fears, whilst also improving their physical and emotional well-being. (National End of Life Care Programme, 2010). The DH (2008) outlines a six-stepped process in a patient's end of life care, the first of which relates directly to discussions as end of life approaches, providing open and honest communication and identifying triggers for discussion. (See Figure 1).

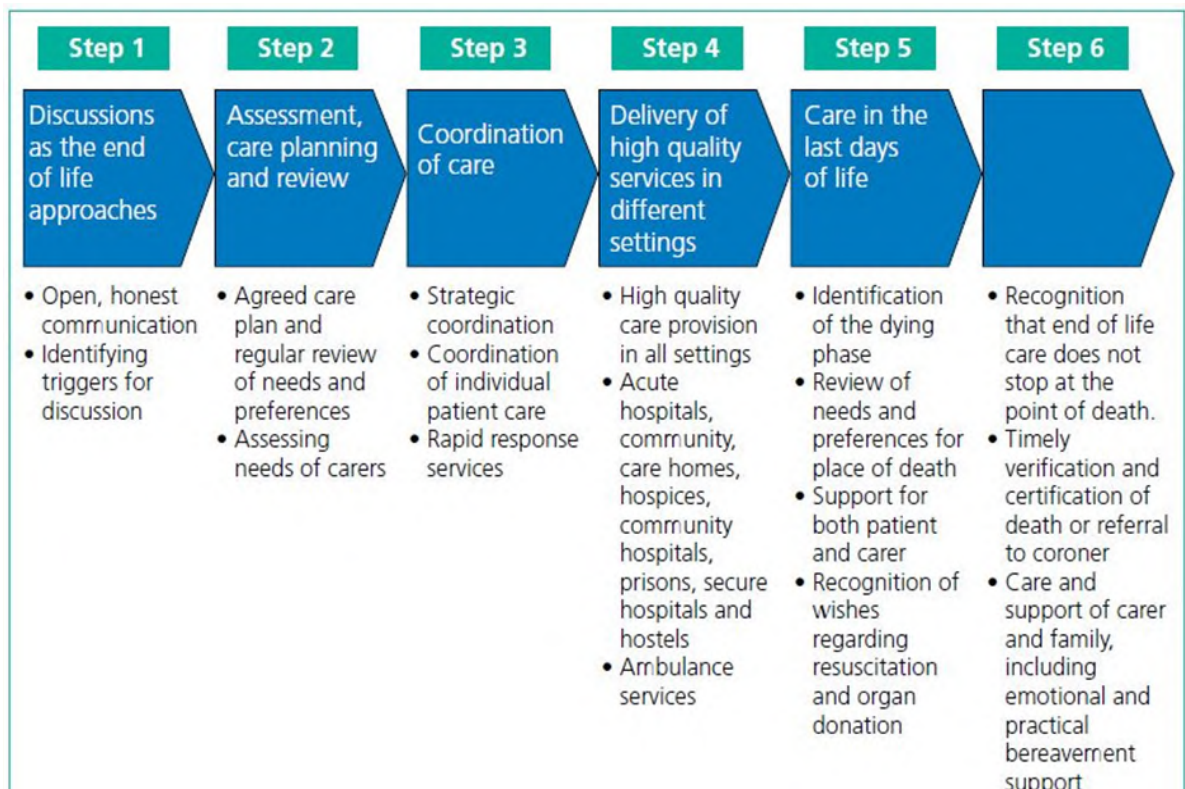| Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Discussions as the end of life approaches	Assessment, care planning and review	Coordination of care	Delivery of high quality services in different settings	Care in the last days of life	
• Open, honest communication • Identifying triggers for discussion	• Agreed care plan and regular review of needs and preferences • Assessing needs of carers	• Strategic coordination • Coordination of individual patient care • Rapid response services	• High quality care provision in all settings • Acute hospitals, community, care homes, hospices, community hospitals, prisons, secure hospitals and hostels • Ambulance services	• Identification of the dying phase • Review of needs and preferences for place of death • Support for both patient and carer • Recognition of wishes regarding resuscitation and organ donation	• Recognition that end of life care does not stop at the point of death. • Timely verification and certification of death or referral to coroner • Care and support of carer and family, including emotional and practical bereavement support

Figure1: *End of Life Care Pathway. (DH, 2008).*

Recent reports identify communication failings, in both general nursing and palliative care, culminating in poor patient experiences. (Francis, 2013; Independent Review of the Liverpool Care Pathway, 2013). With a high proportion of patients, across a variety of health care settings, having either undisclosed or disclosed, but unrecognised concerns, (Schofield, et al., 2008), communication must be embedded and valued as a foundation for good care to meet the service user's needs. (Independent Review of the Liverpool Care Pathway, 2013).

The Independent Review of the Liverpool Care Pathway, (2013) concludes that the necessary communication skills cannot be learned in a lecture or as an e-learning activity, but are acquired alongside a competent practitioner. As an academic I dispute this and argue that all nursing skills, whether psychomotor, communication, critical reasoning or reflection, can and must be taught across both the university *and* clinical practice settings, and that the learning in one environment benefits and links to the learning in the other environment. Lecturers have a responsibility to support the learner to become more reflective through critical exploration of practical experiences. (Rolfe, in Rolfe et al., 2011). The following example of a palliative care communication skills teaching session and the underpinning theory behind this activity, aims to demonstrate how this can be achieved within a classroom setting.

Communication Skills Training

Through a broad evidence base The National Cancer Action Team (NCAT, 2008) identify communication as a skill that health professionals are neither good or bad at, but that can be improved through training based on a model of experiential learning. As such, they created 'Connected', a national palliative advanced communication project for clinical practitioners. This asks participants to identify a palliative situation that they found challenging and uses role-play with actors as simulated patients to explore appropriate communication strategies. (NCAT, 2008; DH, 2008; DH, 2011).

The DH (2011) reports improvements in cancer patient experience related to communication, directly attributed to the 'Connected' training programme.

Although this success could be linked to other factors, such as media attention on communication, my own personal experience as an experienced community practitioner of undertaking the 'Connected' programme highlighted the value of this type of training. Employing the principles of this training program, a simplified palliative care session was created to help second year student nurses to;

1. Be appropriately prepared to deal with palliative communication, both to protect them emotionally and to provide therapeutic opportunities to patients.
2. Be able to recognise and interpret palliative care communication strategies modelled by mentors, and relate this to practice.

Care of Frank

The session 'Care of Frank' was based on a fictitious patient with palliative care needs, Frank Hornby, and used a range of learning strategies including low-fidelity (low-technology) clinical simulation to develop the students end of life communication skills.

Prior to 'Care of Frank' the students had access to Frank's case study, a PowerPoint presentation highlighting relevant communication strategies, an online palliative communication skills workbook and three short video clips from a contemporary documentary, 24 hours in A&E (Channel 4, 2013), which highlighted real life clinical perspectives of palliative care communication. The students were asked to prepare by considering the emotional perspectives of individuals within the clips. The session included a welcome/introduction, discussion of the strategies identified in the PowerPoint presentation, watching and discussing the three documentary clips, and clinical simulation in the form of role-play, with opportunities to debrief/reflect.

Learning Styles

Students learn best from simulation when a variety of teaching methods are employed, and the value of learning from a lecture is increased with the use of simulation. (Bantz et al., 2007). All students will have a preferred learning style, or medium within which they prefer to learn; visual, auditory, read/write or

kinaesthetic. (Nilson, 2010). his principle was engaged throughout 'Care of Frank' to ensure ensure that the session was underpinned by theory and accommodated for a variety of learning styles. Visually stimulated students may engage well with the 24 Hours in A&E documentary clips (Channel 4, 2013) while auditory learners may be more comfortable learning through discussion and reflection. Those students whose learning style is read/write would tend to prefer the PowerPoint and on-line workbook approach, while the kinaesthetic learners might favour the role-play activities, and also potentially the documentry clips. The session reflects the 'learning bundles' approach to learning (Blazeck & Zewe, 2013) through the use of multiple resources; video clips, PowerPoint, communication workbook and links to electronic resources, available before and after the session.

Clinical Simulation

Clinical Simulation, experiential learning that occurs in mock clinical environments, has become increasingly popular for the teaching and assessment of the acquisition of clinical skills, (Ricketts, 2011), and enhance the learner's confidence in skill performance. (Pike & O'Donnell, 2010; NMC, 2010b). Clinical simulation is recognised as an approach to the teaching and learning of student nurses (NMC, 2010b), and as technology advances, the complexity and fidelity of simulation increases. (Howard et al., 2011). It is pertinent to remember that clinical simulation does not necessarily need to use sophisticated technology, and should assist in the development of more than just psychomotor skills alone. (McCaughey & Traynor, 2010; Pike & O'Donnell, 2010).

Nurse education is split approximately 50:50 across the university setting and clinical practice areas, (NMC, 2010a), and fits well with an experiential learning approach. Hughes & Quinn, (2013) describe experiential learning as the process of learning by doing, rather than by listening or reading. If this is to be taken literally then students need only 'do' nursing, negating the need for any form of university input. Boud et al., (1993) take a wider view of experiential learning where learning takes place from experiences, past and present, which we interpret and reflect on individually to create meaning. 'Care of Frank' brings a knowledge

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base to the classroom and applies this to experiences through the use of role-play, to make sense of these experiences as a group and share learning.

Role-play is an active and experiential learning strategy that can facilitate the learner's autonomy, and allow students to exercise their communication skills. (Chan, 2012)   Developing student nurse's interpersonal skills is intrinsic to their professional development, (NMC, 2010a) allowing exploration of multiple perspectives, including their own, and the development of empathy. (Hughes & Quinn, 2013).

The experiential learning model (Kolb, 1984), is a cyclic model that fits well with principles of role-play as a learning strategy and promotes reflection. It has similarities with reflective cycles such as Gibbs (1988), allowing time and opportunities to link tacit and intuitive knowledge. (Howatson-Jones, 2013). The Kolb (1984) cycle strikes an important balance between experience and reflection, which, as shown in Figure 2, when overlapped creates effective learning opportunities. (Boore & Deeny, 2012).
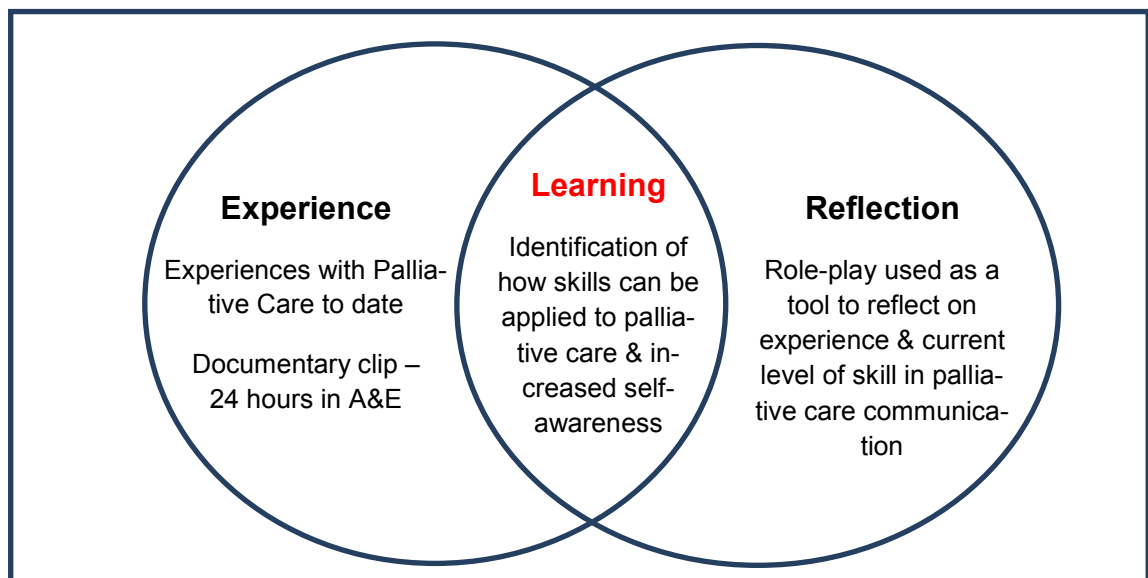

Figure 2: *Experience + Reflection = Learning (Boore & Deeny, 2012) applied to 'Care of Frank'.*

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Kolb's experiential learning model (1984) can be applied to a variety of learning methods, such as learning by doing, in this case, role-play. (Healy & Jenkins, 2000). Kolb (1984) links peoples preferred or most comfortable learning mode to their previous experiences in education. Whilst all of the 'Care of Frank' students had encountered some professional exposure to palliative care, the extent to which students have been exposed to good communication and good role-models varies, (Tosterud et al., 2013,) and they may also have personal experiences of palliative care. It is important to recognise that each student and student group is different and may require a different approach.

Application of Kolb (1984) and Healy and Jenkins (2000) is set out in Figure 3 to create a format for the role-play, extracting the reflective nature of learning, whilst being aware of the different learning styles and experiences present at the session.
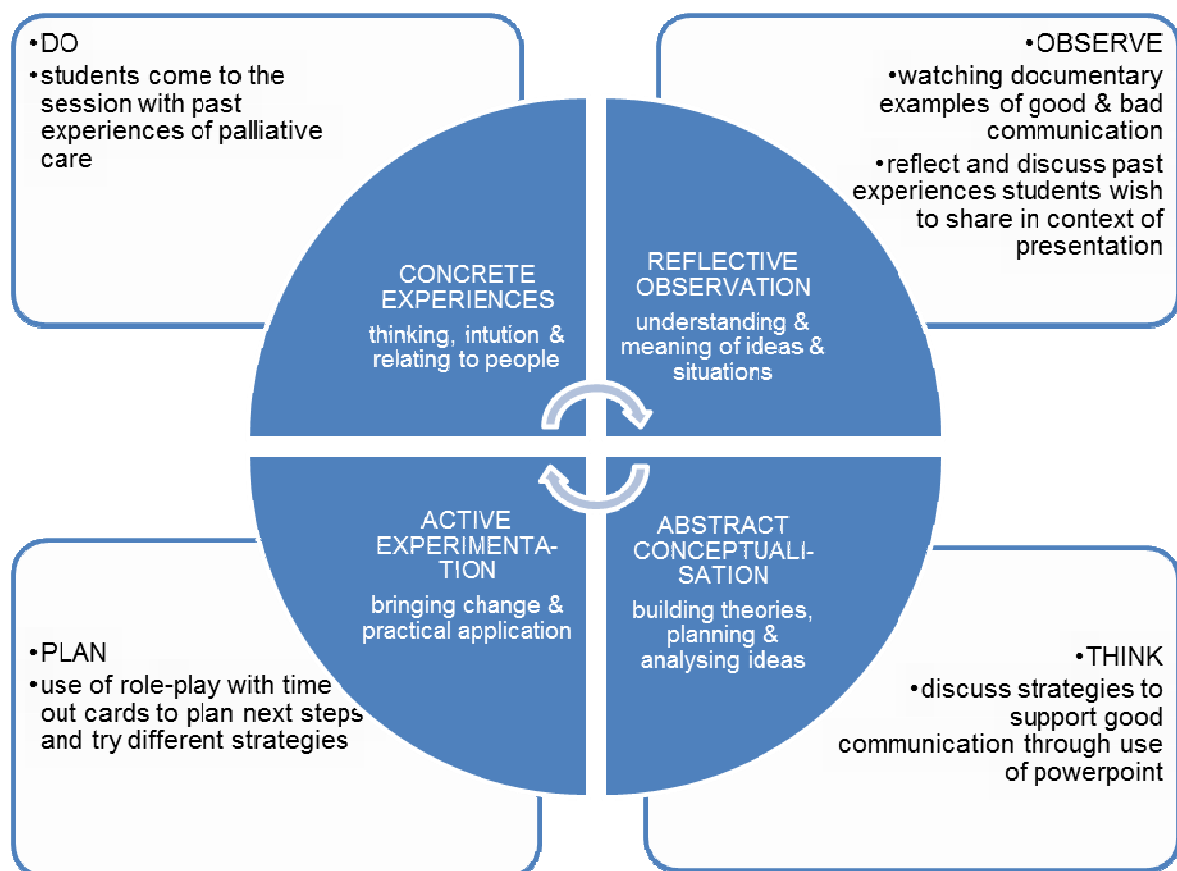

- DO
- students come to the session with past experiences of palliative care

- OBSERVE
- watching documentary examples of good & bad communication
- reflect and discuss past experiences students wish to share in context of presentation

CONCRETE EXPERIENCES
thinking, intution & relating to people

REFLECTIVE OBSERVATION
understanding & meaning of ideas & situations

ACTIVE EXPERIMENTA-TION
bringing change & practical application

ABSTRACT CONCEPTUALI-SATION
building theories, planning & analysing ideas

- PLAN
- use of role-play with time out cards to plan next steps and try different strategies

- THINK
- discuss strategies to support good communication through use of powerpoint

Figure 3: *Fusion of Kolb (1984), & Healy & Jenkins (2000), applied to 'Care of Frank'*

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Typically role-play is split into three stages. (Rowles & Russo, 2009; Boore & Deeny, 2012).

1. Briefing/Sensitisation – Setting the scenario and objectives of role-play, allowing self-evaluation of current communication skill level.
2. Running/Practice – 'Acting' and using communication skills within simulation.
3. Debriefing/Feedback – Discussion, analysis and evaluation of the role-play experience, providing motivation, reinforcing information and support from peers.

This structure was applied to 'Care of Frank', as demonstrated in Figure 4 below, with stages two and three repeated cyclically.
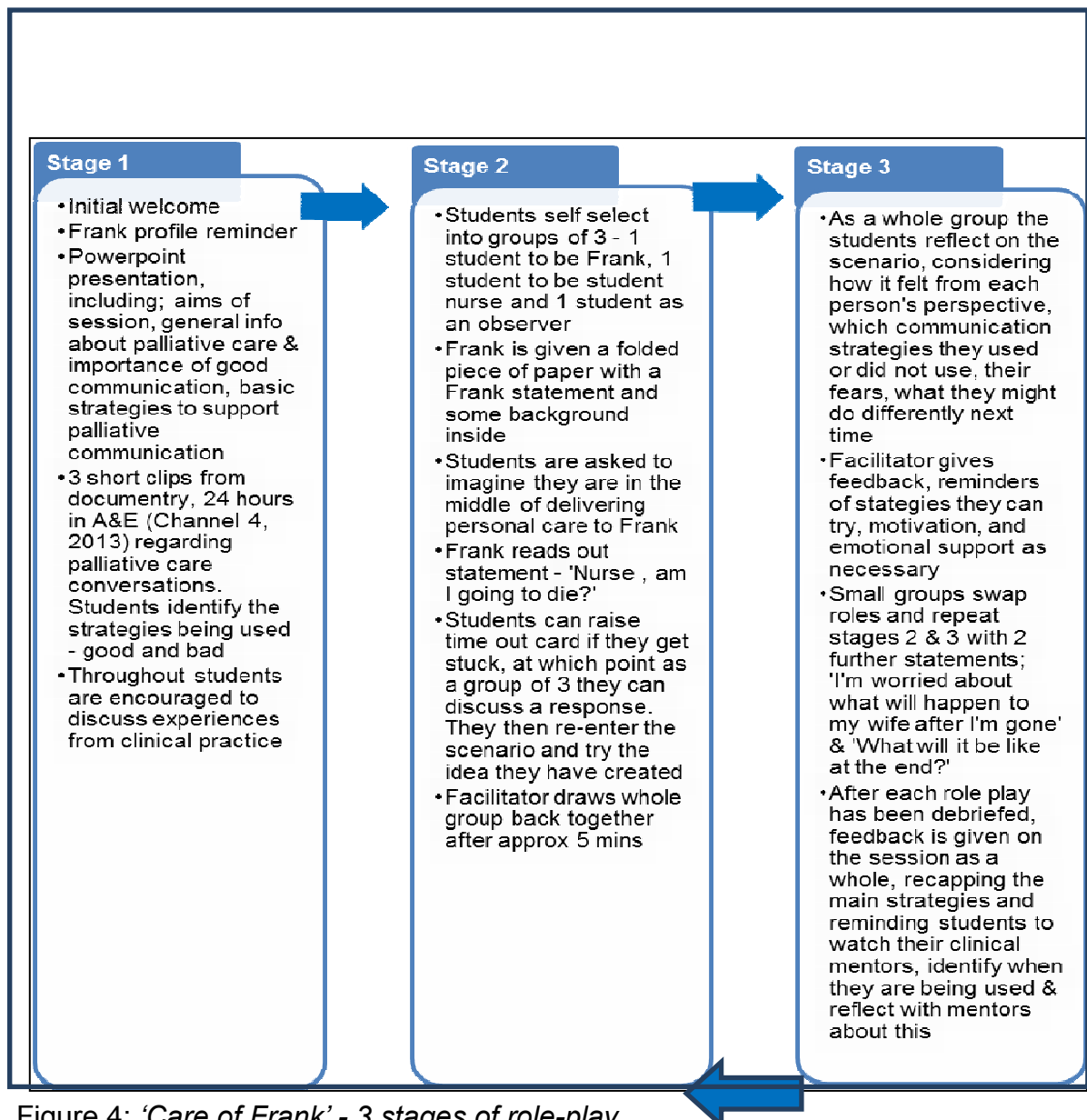
Stage 1
- Initial welcome
- Frank profile reminder
- Powerpoint presentation, including; aims of session, general info about palliative care & importance of good communication, basic strategies to support palliative communication
- 3 short clips from documentry, 24 hours in A&E (Channel 4, 2013) regarding palliative care conversations. Students identify the strategies being used - good and bad
- Throughout students are encouraged to discuss experiences from clinical practice

Stage 2
- Students self select into groups of 3 - 1 student to be Frank, 1 student to be student nurse and 1 student as an observer
- Frank is given a folded piece of paper with a Frank statement and some background inside
- Students are asked to imagine they are in the middle of delivering personal care to Frank
- Frank reads out statement - 'Nurse , am I going to die?'
- Students can raise time out card if they get stuck, at which point as a group of 3 they can discuss a response. They then re-enter the scenario and try the idea they have created
- Facilitator draws whole group back together after approx 5 mins

Stage 3
- As a whole group the students reflect on the scenario, considering how it felt from each person's perspective, which communication strategies they used or did not use, their fears, what they might do differently next time
- Facilitator gives feedback, reminders of stategies they can try, motivation, and emotional support as necessary
- Small groups swap roles and repeat stages 2 & 3 with 2 further statements; 'I'm worried about what will happen to my wife after I'm gone' & 'What will it be like at the end?'
- After each role play has been debriefed, feedback is given on the session as a whole, recapping the main strategies and reminding students to watch their clinical mentors, identify when they are being used & reflect with mentors about this

Figure 4: *'Care of Frank' - 3 stages of role-play.*

Whilst the learning process drives the role-play session, there is an additional do/ observe/think/plan layer, where smaller versions of this process are being carried out in a repetitive motion through the use of a time out card. This card allows the students or facilitator to pause the role-play action, a technique employed by Jacobsen et al., (2006), and NCAT, (2008), to support the participants through challenging aspects of the role-play, prompt discussion and negotiate next steps. Additionally it allows the delivery of small amount of feedback before restarting the role-play. This feedback does not negate the need for an overall feedback/debrief at the end of the session. Role-play, especially in these circumstances, can be draining and debriefing is a vital component of reflecting on the immersive experience, especially for novice practitioners. (Buckly & Gordon, 2011).

Informal, reflective feedback following 'Care of Frank' supports the ideals of Bantz et al., (2007), Reilly & Spratt, (2007), and McCaughey & Traynor, (2010), that despite initial anxieties, the vast majority of nursing students leave clinical simulation sessions feeling more confident about their ability to perform these skills. Application of Bandura's (1986) social learning theory helps unpick how the communication skills learned at university can be translated into real life skills in clinical practice. 'People do not enact everything they learn.' (Bandura, 1986:pg 68) However, when a student leaves a simulation session with increased self-efficacy, they are more likely to be motivated to try that skill. (Bantz et al., 2007; Reilly & Spratt, 2007; Baxter et al., 2009; Pike & O'Donnell, 2010). The strongest learning comes from the vicarious observation of a role model, (Campbell, 2012; Bandura, 1986), underlining the necessity for high quality experiences and mentorship in practice areas. Role models can be found outside of the clinical practice setting. For example, during the 'Care of Frank' session, the sister within the documentary clip is a champion for effective palliative communication. However, regardless of how good the experiential in-class teaching might be, unless the clinical area offers some kind of intervention, these skills will not be automatically transferred. (Heaven et al., 2006).

Safety

Clinical simulation, when used regularly, has the potentially to enhance patient

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safety, decrease professional errors, and improve patient outcomes. (Donaldson, 2008). Nurse education has an opportunity to incorporate clinical simulation to embed patient safety within its programme thereby driving up standards as the students join the clinical nursing workforce. (Willis Commission, 2012).

Simulation learning is considered a safe environment where students can make mistakes without a negative impact on a 'real' patient. (Gore et al., 2008; Hope et al., 2011; Tosterud et al., 2013). However, this does not mean that students *feel* safe. They can experience threats to academic safety and subsequently feel unsafe to participate fully in the simulation. (Berragan, 2011; Ganley & Linnard-Palmer, 2012). Additional consideration is required when focussing role-play on palliative care communication issues. Student safety must be considered from not only an academic perspective, but also consider the student's emotional safety, both of which could be potential barriers to learning.

Clinical simulation creates anxiety that can have positive and negative effects on learning. Anxiety in authentic clinical simulation environment can benefit skills acquisition, (Maran & Glavin, 2003; Jefferies & Rizzolo, 2006,) when a stressor creates a link to a learning pathway. (DeMaria et al., 2010). This will vary depending on the expectation of the task and the individual's perception of the task. (Ganley & Linnard-Palmer, 2012). However, if authenticity provokes anxiety beyond that which helps learning, negative effects may be observed on the student's competence, knowledge base and self-efficacy. (White, 2003). 'Care of Frank' students described their initial anxiety as 'nervous awkwardness' but recognised the benefit of being able to experience an emotional response within the role-play, as recognised by DeMaria et al. (2010). The challenge was to find the optimal point between conflict and harmony, the point where healthy anxiety creates optimal learning. (Ganley & Linnard-Palmer, 2012). (See Figure 5).
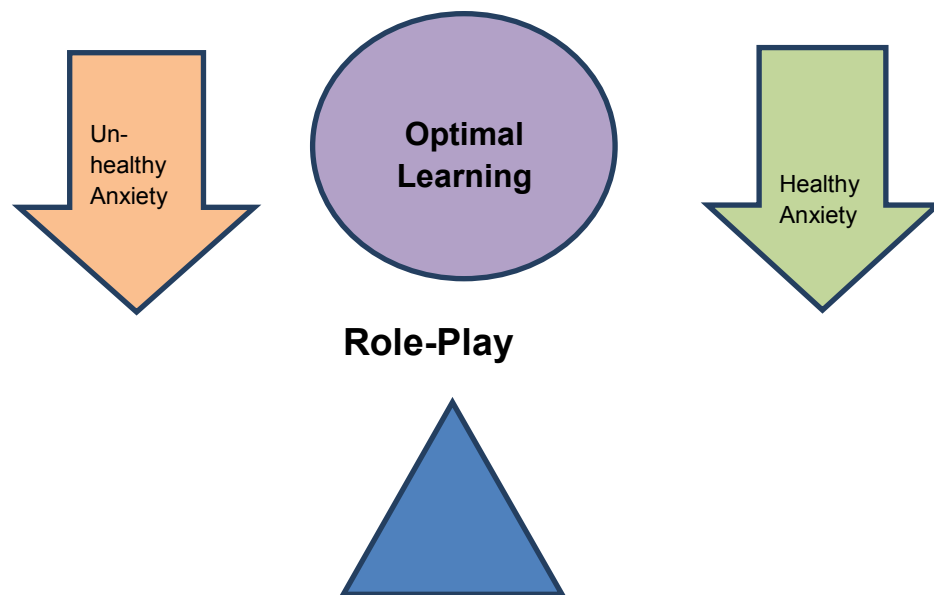
Figure 5: *To demonstrate the balance between anxiety and optimal learning*

To promote a safe environment, 'Care of Frank' created a relaxed, informal group learning space and the students were briefed to give clarity about how the session would run and the activities anticipated. (Hughes & Quinn, 2013). The emotional toll of the session was discussed and raised the students' self-awareness of potential vulnerabilities. Internal barriers, such as previous negative experiences or the emotional state of the student, can inhibit learning. (Boud & Walker, 1993). However increased self-awareness and reflexivity can also promote student nurse learning, (Ganzer & Zauderer, 2013), but needs to happen in an emotionally safe way. 'Care of Frank' students were not asked to share personal experiences, merely asked to support each other and demonstrate compassion as they would in a clinical environment. (DH, 2012). The use of a realistic but fictitious patient 'Frank', helped to increase the session's realism whilst supporting those who may have had harrowing personal experiences, to deflect the attention away from this association with palliative care, and maintain a professional approach.

Figure 6 documents the sources of anxiety, 'conflict,' as described by the 'Care of Frank' students and the strategies employed by myself to increase 'harmony' (Ganley & Linnard-Palmer, 2012: pg 2)
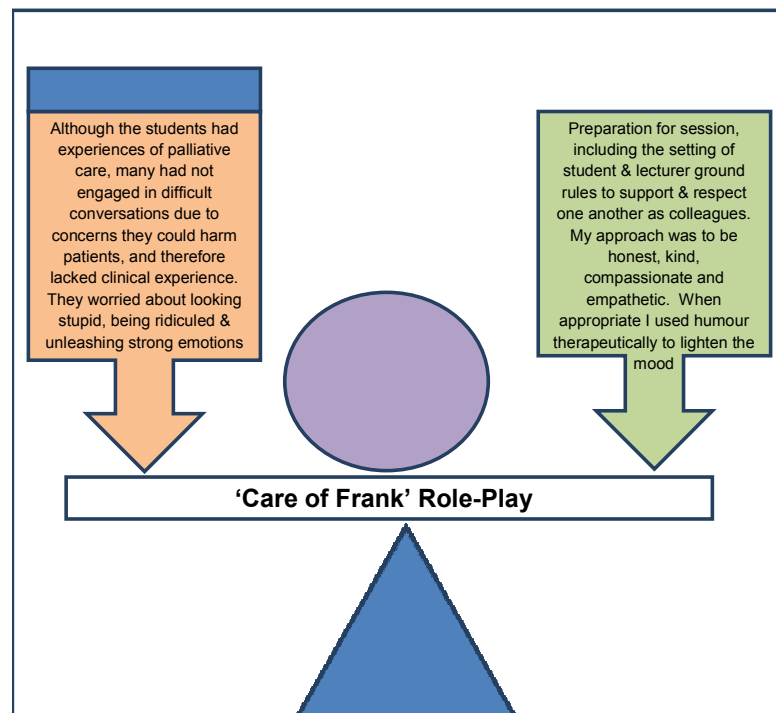
Figure 6: *'Care of Frank' – Student identified fears balanced against strategies employed to reduce fear.*

The student's reflections after the session indicated that they felt the initial briefing phase had helped create a relaxed, supportive and non-threatening environment and broke the ice. They also identified with the notion of feeling secure to try and practice strategies in relative safety without damaging a patient, because Frank was not real. (Gore et al., 2008; Hope et al., 2011; Tosterud et al., 2013).

The students admitted finding question one tough, but described this as a 'warm-up,' allowing greater participation with questions two and three. Some students reflected that at points they felt unable to fully commit to the role-play and had made jokes as a coping strategy. To reprimand students at this point may have stifled the maintenance of a safe environment. Instead the students were gently encouraged and supported to discuss their emotions. Lecturers must facilitate a safe learning environment where students feel able to commit to the role-play, by being supportive, understanding, helpful and nonthreatening. (Ganley & Linnard-Palmer, 2012). Employing attributes such as empathy and understanding, key components of palliative care communication, (Johnson et al., 2013), meant that I not only created a safe environment but maximised an

opportunity to act as a strong role model. (Bandura, 1986).

Using video clips within lectures can add reality to the patient experience and links to theory. (Boore & Deeny, 2012). The student group expanded upon this concept by suggesting they were able to identify clearly within the clips where the strategies were and were not utilised, identifying good and bad practice and the impact of the quality of care experienced by the patient and his family. However, they were surprised by how challenging it was to replicate this good practice within the role-play.

The Future – How can the use of Role-play be maximised?

The session sits within a practice module aiming to support students as they enter clinical practice settings and has no direct links to academic assessment within the university. It is within practice placements that student's communication skills are measured and assessed by mean of achieving competency in the NMC (2010a) essential skills clusters.

Using role-play as an assessment tool in nursing has benefits in encouraging students to be an active part of learning; supporting their abilities to critically think and be creative. (Sellers, 2002). Evidence supports and values videoing and watching back role-play as a means to improve the debriefing stage of role-play, increasing understanding through reflection, (Boore & Deeny, 2012), and could perhaps be a useful tool in collecting information for assessment purposes. However, there is also evidence to suggest that the use of video adds to the perception of an unsafe environment, (Ganley & Linnard-Palmer, 2012; Campbell, 2012), and as such could decrease learning. In light of the fact that 'Care of Frank' is an emotionally tough session and could have provoked anxiety in the students, videoing the   session could have increased this anxiety further and was therefore not used.

Assessed role-play could be used elsewhere within the programme. Perhaps a starting point is to ensure that students become accustomed and comfortable with clinical simulation such as role-play early on. Hope et al., (2011), and Kuehster & Hall, (2010,) advocate embedding simulation across all 3 years of the

pre-registration nursing course to maximise student's ability to clinical reason and make decisions, whilst reducing role-play anxiety. With or without assessment, the concept of familiarity and an understanding of the role-play approach could help to maximise its benefits to student learning. There would be benefits to acclimatising students to role-play as soon as possible in year one and role-play forming a common theme throughout the three years, as a means of teaching and progressing student's communication skills. This will depend upon three important and co-existing factors:

- A role-play 'learning bundle' structure (Blazeck & Zewe, 2013), that is understood and adopted by academic staff across each of the three years of practice modules.

- A deeper connection between education and health care providers to ensure that clinical role models are full partners in the provision of nurse education. (Willis Commission, 2012). There could be scope for the development of a 'clinical-academic' role to translate what we expect students to be able to communicate at each stage of training, the way these skills have been taught and the skills that they are identifying in their role models.

- Opportunities for students to receive supervision, by means of an 'intervention' (Heaven et al., 2006), to provide support after an event where the skills practiced in role-play, seen emulated in clinical areas or perhaps even tried out, can be considered. This could be by means of facilitated reflection time or action learning sets, offered by universities, at intervals throughout the three-year programme when students come back to university after practice

Conclusion

Ricketts (2011) calls for clinical simulation that responds to the needs of the student and that of health care services. With greater expectations of nursing graduates, (Willis Commission, 2012), and an increasing need for advanced communication skills in generalist nurses, as well as specialist nurses, (Finegan &

McGurk , 2007), now is the time to consider how all forms of clinical simulation, including role-play, can be usefully integrated into the pre-registration nursing programme Jenkins et al., (2007) ask if professional knowledge is learned from a research base, a practice-base or understanding the craft of the profession. 'Care of Frank,' is an amalgamation of research, practice *and* craft, with role-play forming an integral part of the process of developing professional knowledge, competence and self-awareness.

- Research – Communication strategies underpinned by evidence based practice and health service demands.

- Practice – Using role-play as an opportunity to recognise and safely practice these strategies.

- Craft – Having an intuitive understanding of difficult conversations through the reflective examination of one's own and other's perspectives.

This learning process cannot be viewed in isolation as a university only exercise. To give learning from role-play true meaning, palliative communication training must be viewed as a joined up academic and clinical practice exercise. With strong links between clinical practice and university, the establishment of strong role models and structured opportunities to reflect on clinical practice, student nurses can learn and develop whilst also being an integral component to the provision of high quality palliative care.

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How can the use of social media platform Twitter as a classroom tool improve the induction experience for Level 4 Mass Communications students?

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Abstract

The use of social media platform Twitter as a classroom tool in a Higher Education context is increasingly accepted and documented, although academic research on its effectiveness is in its infancy.

The review of the literature, as well as a look at specific examples of the Twitter Scavenger Hunt format both at the University of Hertfordshire and at other HE institutions, aims to support the author's notion that use of this social media platform can enhance the learning experience in general, and the induction process for new university students in particular.

The literature supports the assertion that Twitter can offer a deeper and broader learning experience and at the same time ease the transition into HE, particularly among students who do not carry the "cultural capital" of having come from a family with prior experience of university life (Bourdieu & Passeron, 1997).

A reflection on practice within the current and forthcoming provision of induction programmes for Humanities and Mass Communication students is provided and some challenges and provisos presented. Use of Twitter as an induction and learning tool at other HE institutions is considered.

Conclusions are drawn both from the review and the practical findings. The benefits of using Twitter in an induction programme are supported by a loose base of evidence regarding this emerging area, but with the proviso that this usage is clearly defined and signposted within the learning environment for specific activities that do not intrude upon the students' personal use of the platform or distract from other forms of learning.

A Twitter activity will be incorporated into the new Mass Communications 15-credit Level 4 induction module Introduction to Media Practices from October 2014.

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Introduction

Until the academic year 2013/14, Level 4 students beginning either the Humanities or the Mass Communications (Mass Comms) programme at the University of Hertfordshire have undertaken *Engaging With The Humanities (EWTH)*, a compulsory 15-credit module spread over two semesters, which aims to extend the induction process begun during Induction Week. The module's purpose is to encourage students to familiarise themselves with the UH campuses, to provide them with some good study practices and academic skills, and to help build an academic community between peer groups and with staff teaching on the Humanities programme.

From Semester A 2014, students on the Mass Comms programme will no longer take this module, but will instead take the compulsory module *Introduction to Media Practices*. This new module is being designed to more specifically target Mass Comms students with the communication, research, technological and analytical skills characteristic of, and necessary to, those involved in the media industries, while retaining the general academic and induction aims of the EWTH module.

This article will look at the possible benefits of incorporating an activity based on the social media platform Twitter into the Introduction to Media Practices module, with the aim of extending the general induction process begun in Induction Week, as well as introducing Mass Comms students to best practice of using a widespread industry tool.

The article will reflect on how Higher Education establishments in other countries have incorporated Twitter into their induction programmes. It will consider the pedagogical benefits of a more extended, relevant and targeted induction process, and how this activity can help in the engagement of students within the demographic of a post-1992 university.

Finally, it will also look at the efficacy of using Twitter as a classroom tool in this context, and will consider how best to set up such an activity specifically with Mass Comms students in order to best enhance their industry skills as well as adding

value to the induction process. As a Journalism Lecturer with a background in national newspaper, magazine and online journalism, I am now specialising in the area of social media and am currently working on the development of a new Social Media module within the Mass Comms programme, to start in 2015. I am also helping to develop the *Introduction to Media Practices* module. The introduction of social media tools into our programmes is of interest both to our students and to my colleagues, in order to develop best practice in incorporating these emerging areas into our teaching.

Literature Review

Literature Searches:

A search of the literature was conducted using Google Scholar and Google (as social media is an emerging discipline, it was necessary to extend the search beyond the traditional academic arena).

An approach was taken to focus on journals, articles and web resources in the area of educational technology (*British Journal of Educational Technology; Educational Technology and Mobile Learning; Educause; Edudemic; JISC; Journal of Magazine and New Media Research; Journal of Universal Computer Science*) and also in the area of journalism in academia (*Association of Journalism Educators; Association of Journalists in Education; Association for Journalism Education; British Journalism Review; Journalism and Mass Communications Educator; Journalism Practice; Mapping the Magazine*). This is because the use of social media in an educational setting is still an emerging discipline and it is therefore necessary to research both fields in order to gain a fuller picture.

The author looked at two main areas of research, that of the induction process in HE, and that of the use of Twitter as a classroom tool in HE. Keywords included *Twitter, social media, classroom tool, induction, new student, HE learning environments, learning styles, cultural capital*.

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The Induction Process in Higher Education:

The "massification" of the provision of Higher Education since the 1990s (Scott, 1995; Hockings *et al*., 2007) especially within the post-1992 HE sector has led many to suggest that there is now a "new student" in higher education who typically finds it difficult to "engage" in student and academic life on arrival at university (Leese, 2010). The transition into an HE setting is hampered by a lack of "cultural capital" (Bourdieu & Passeron, 1997; Modood, 2004; Robbins, 2004) and this can lead to a negative experience when students start university (Lowe & Cook, 2003) and an ongoing disadvantage throughout the duration of a student's studies.

It is suggested that the traditional week-long "freshers' week" style induction programme offered by many HE institutions is not enough to help students make the transition into this "alien environment" (Askham, 2008) and that a longer, more thorough induction process would have a lasting impact on students' future achievements (Haggis, 2006; Hultberg *et al*. 2008).

Viewing induction as a process (Laing *et al*., 2005) rather than as a short welcome event to ensure students "fit in" to university life, and incorporating ways of familiarising students with technology, their learning environment, the faculty and their peers would help remove many barriers to learning and would promote the cultural capital some students lack on arrival. Some Level 4 (first year) students feed back to tutors that they view "induction" as more of a one-off, time-limited social "event" focused on enabling them to make friends or join societies, but that there is a lack of ongoing support with regard to academic skills and learning.

Twitter can create a sense of a "learning community" which reinforces the physical learning environment and enhances a sense of belonging and acceptance. Zhao & Kuh (2004) found that this experience of being in a learning community was positively associated with benefits to the student of personal and social development, practical competence, greater effort and deeper engagement (Zepke & Leach, 2010).

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Use of Twitter in HE Learning Environments:

It is asserted that Twitter is beneficial as a learning tool in that it offers different ways of communicating and learning that appeal to students with varying learning styles. Honey & Mumford (1982) categorise learners into four learning style categories, based on the learning styles model of David Kolb (1984):
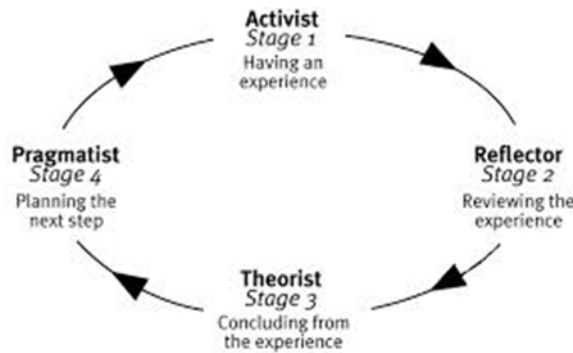

Figure 1. *Honey and Mumford: Typology of Learners*

Twitter as a learning tool works well for all four of these learning styles, and equally for use in all four Stages of the cycle.

Honey & Mumford	
Activists	respond positively to learning situations offering challenge and new experiences – using a Twitter competition or scavenger hunt plays well to this.
Reflectors	prefer time to observe, reflect and think – they can use Twitter to discuss a learning experience in more detail, to ask for feedback, to converse with peers and to aid reflection.
Theorists	like opportunities to question and stretch their intellect – Twitter can be used to collaborate with other students, perhaps at other institutions, and to test their theories and hypotheses with a wider audience
Pragmatists	like practically based and immediately relevant learning activities - Twitter is hands-on, immediate, is used in "real time" and responsive.

Table 1. *Honey & Mumford Learning Styles in Relation to Twitter Application.*

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Experiential learning – learning gained through life, education and work – should play a central role in learning, according to Kolb (1984). (figure 2)
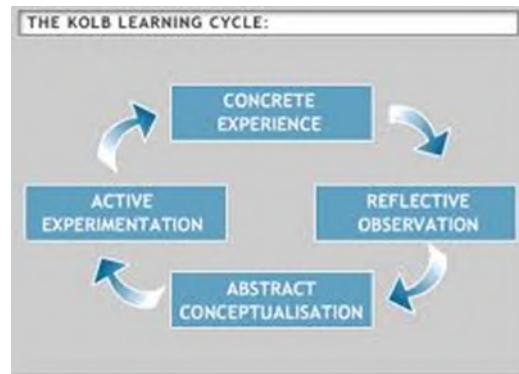

Figure 2. *The Kolb Learning Cycle (Kolb, 1984).*

The use of Twitter can bring the theoretical and the academic into the experiential field, encouraging reflective practice, vicarious experience such as role play, and the continuous shaping of experience through interaction with others.

There is some fear that encouraging use of social media in the classroom could be a barrier to learning and concentration. It has been noted that use of digital media and technology in the classroom *can* be detrimental to learning – when the use is "off-task" and distracting.

Wood *et al*. (2011) compared four digitally-based multi-tasking activities (texting, emailing, MSN and Facebook) with three control groups (pen and paper note-taking, word-processing note taking, and a natural use of technology condition). It was found that participants who didn't use technologies out-performed students who used some form of technology. It is therefore important to limit the use of social media such as Twitter to specific, defined and "on-task" learning activities, and to provide a framework for their use within the classroom.

One suggestion, for example, might be to use Twitter at specific points during a teaching session, signposted by the teacher. Using Twitter to recap previous points from earlier sessions, or earlier in the same session, can help to beat the "forgetting curve" (Ebbinghaus, 1885). The curve (figure 3) describes the exponential loss of information learned by an individual – the sharpest decline

occurs in the first twenty minutes and then remains significant throughout the first hour, leveling off after one day.
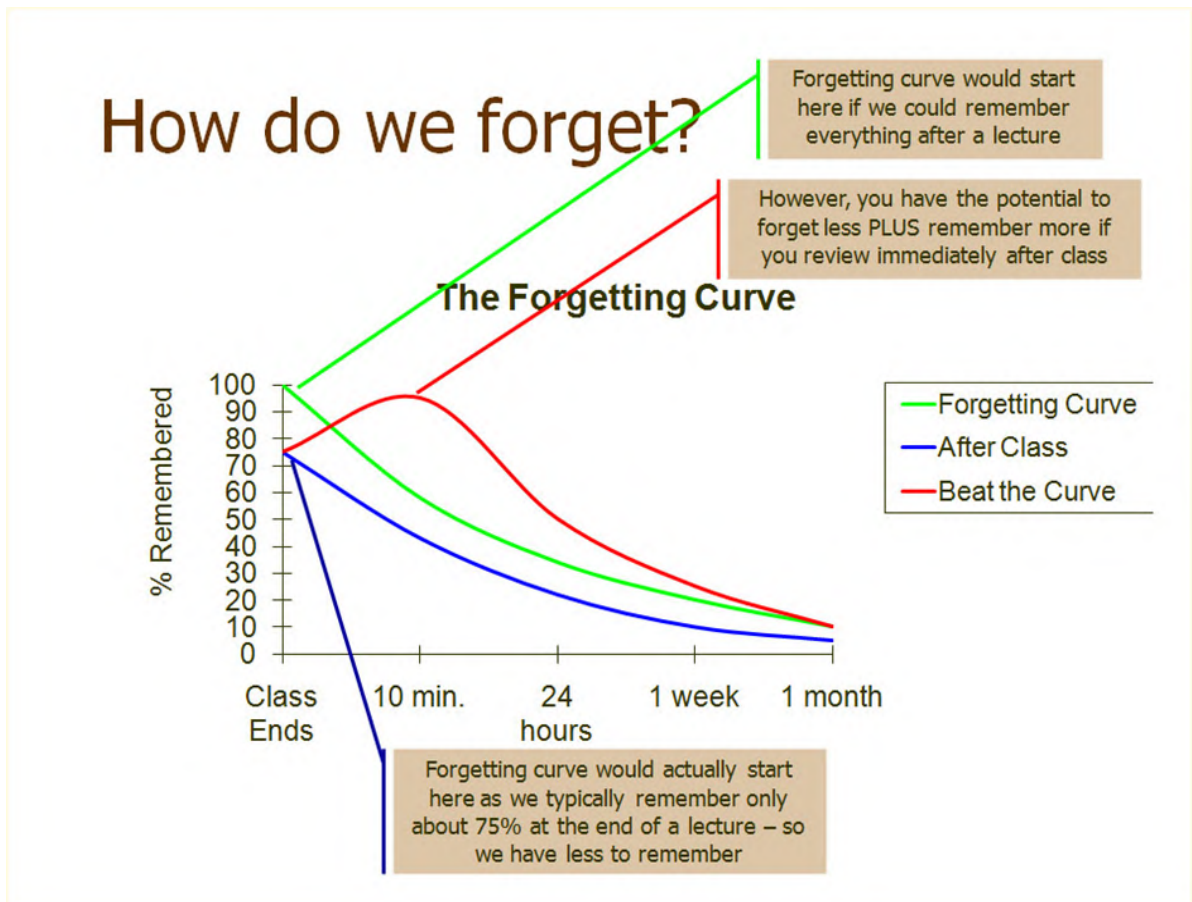

Figure 3. *The Forgetting Curve (Ebbinghaus, 1885).*

Twitter can be used to sum up key points, add thoughts, and recap major themes at regular intervals, and therefore "beat" the curve. Regular reviewing of learned information, perhaps using Twitter among peers either at the same university or between HE institutions, might be a useful tool in overcoming the curve Figure 4).
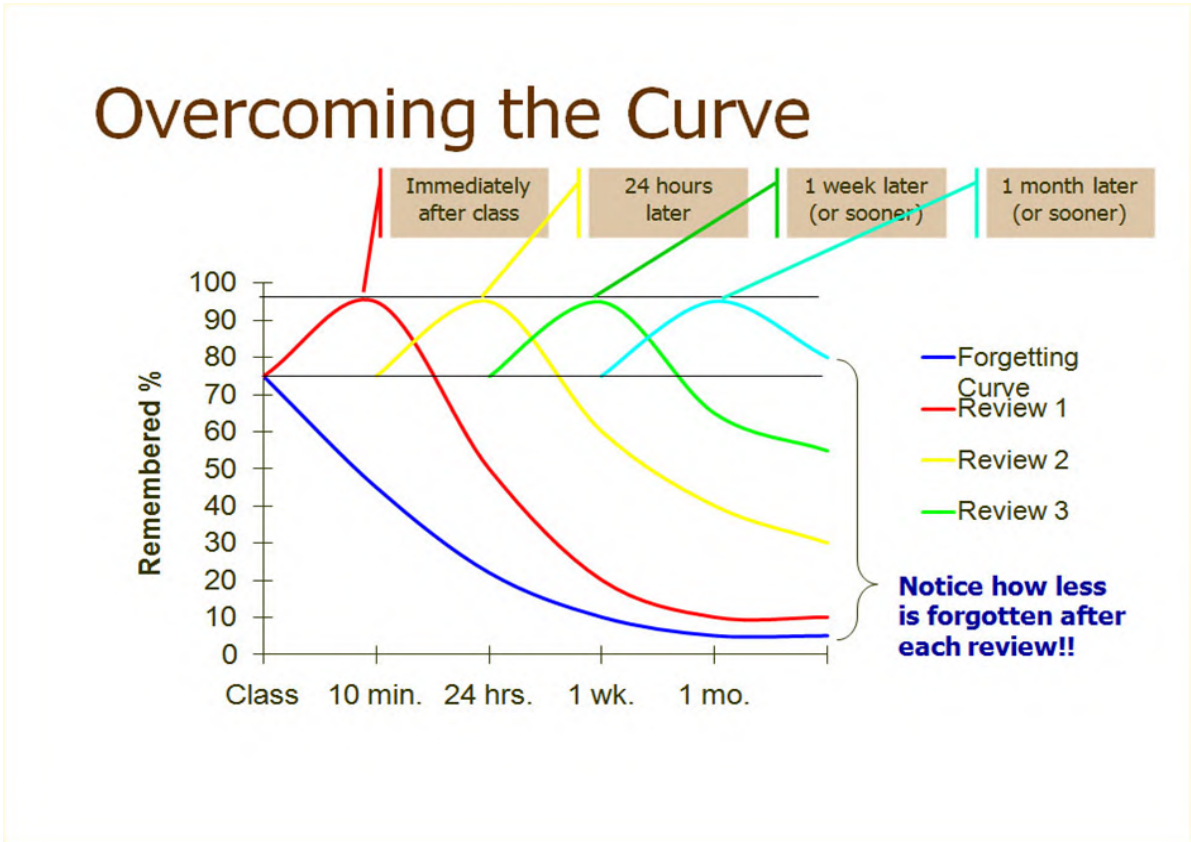
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Overcoming the Curve

Figure 4. *Overcoming the Forgetting Curve.*

Students also retain a larger percentage of any information that they have "talked through" with others (table 2)(Glasser, 1988, quoted in Biggs, 2003) – and as Twitter is a communication tool, it enables them to talk learned information over with a wider range of people, and with fellow students with whom they might ordinarily have much opportunity to converse.

Most people learn…
•10% of what they read
•20% of what they hear
•30% of what they see
•50% of what they see and hear
•70% of what they talk over with others
•80% of what they use and do in real life
•95% of what they teach someone else

Table 2: *Glasser: How We Learn*

Twitter can be used to encourage students to talk new ideas and learning over with others, achieving 70 percent retention, or even to convey (or teach) that new information to others, achieving 95 percent retention.

The platform can also be beneficial in:

- Offering support within a group learning context
- Offering opportunities for networking and collaboration between teachers/academics and between students
- Deepening and widening the learning experience, for example through the use of hashtags to create meaning and give context to discussions both in class and after contact hours, or through reviewing questions after class, or Tweeting follow-up links for self-study

Hockings *et al* (2008) suggest that students who are reflective, who can question and conjecture, who are able to evaluate and make connections between ideas – and at the same time can learn from other people's ideas, experience and knowledge – are more fully engaged. Creating a richer, more varied learning experience to challenge and stretch students can promote learning (Zepke & Leach, 2010).

Twitter can be beneficial not just academically but also psychologically, having a "positive impact on informal learning, class dynamics, motivation, as well as the academic and psychological development of young students" (Dhir *et al*., 2013).

It is also possible to link the use of Twitter in a learning context to Bloom's Taxonomy (Bloom, 1979), which covers six levels of cognitive ability increasing from knowledge, comprehension, application, analysis and synthesis to evaluation (table 3).

BLOOM'S TAXONOMY & TWITTER

CREATE	– **Invent** a Twitter application – **Create** a fake but accurate Twitter profile for a historical or literary figure – **Remix** trending tweets with video and music to create a PSA
EVALUATE	– **Combine** multiple tweets on a single topic into a story – **Criticize** a Twitter user's argument – **Predict** trending words and phrases based on current Twitter trends and world news – **Convince** someone on a topic based purely on tweets for evidence
ANALYZE	– **Compare & contrast** Twitter to other forms of social media – **Analyze** tone in different tweets – **Examine** bias in different tweets – **Diagram** a web showing connections between popular/trending tweets
APPLY	– **Give an example** of a tweet for an assigned political leader – **Illustrate** popular/trending tweets – **Paraphrase** a book, poem, or text using 140 characters
UNDERSTAND	– **Summarize** tweets on a relevant topic – **Translate** tweets in other languages – **Estimate** the number of tweets a user will post based on previous tweets per day – **Rewrite** tweets in your own words
REMEMBER	– **Follow** relevant Twitter users (historians, scientists, etc.) – **Define** major elements of Twitter (tweet, hashtag, etc.) – **Observe** geographical trends in tweets with TrendsMap – **Match** political tweets with political parties

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Table 3. *Bloom's Taxonomy and Twitter Application*

This table has been created by TeachBytes, presented by Jeffrey Dunn at edudemic.com (edudemic, 2013).

Methodology – The Twitter Scavenger Hunt

The use of Twitter in an HE setting is not new – the platform was launched in 2006, and from its early days there have been several examples of its use in a classroom setting, particularly where teachers use it to enhance and extend learning during a teaching session, to carry on a discussion after a session, to direct students to further independent study or reading material, or simply to communicate better with students, inform them of practical arrangements or enthuse them regarding a specific learning topic. However, its full integration as part of a module, programme of study or specific lesson scheme is still rare.

The idea of a Twitter Scavenger Hunt for use in a Higher Education induction

process was invented in 2011 by Carrie Brown-Smith, professor of Journalism at the University of Memphis. Since then the idea has been taken up by several North American universities, including the University of Oregon, Indiana University and Drury University. The University of Pittsburgh runs a programme called "Pittstart" which forms its academic freshman orientation programme. As part of this programme, it runs a *Twitter Photo Scavenger Hunt*, a competition in which students are asked to upload photographs under a dedicated *hashtag* (a device used on the platform to group and signpost discussions for easy reference) and entered to win an iPad and "bonus bucks" for use in campus food outlets as prizes. To be eligible, students must follow certain university Twitter accounts, including those relating to its dining provisions, book store and student services.

In 2013, Kim Fox, Associate Professor of Practice, Department of Journalism and Mass Communication, The American University in Cairo presented at the World Journalism Education Congress on her use of the *Twitter Scavenger Hunt* (TSH) with the university's journalism students, specifically those on the JRMC 2202 Multimedia Writing course at AUC since Spring 2011.

For the exercise, students are asked to pair up and complete 10 tasks over 75 minutes, with the aim of winning points. Students are sent to ask questions, find facts, take pictures and then upload these to Twitter with a specific group hashtag. The winner of the competition is offered extra credit points.

Before the hunt, students are shown a "Twitter 101" or "how-to guide" for the platform, to ensure all competitors are comfortable with the technology and use of the site. Students are encouraged to focus on use of pictures, accuracy of quotes, conducting brief interviews, and above all having fun in a non-classroom environment.

Fox says: "The way that I utilize Twitter for the TSH meets several journalism learning objectives - in addition to getting the students out of the classroom." (Fox, 2014)

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Fox lists the following learning outcomes, which she notes could also be applicable to media literacy courses:

- mock work in the field (i.e. the campus)
- conduct interviews
- write direct quotes
- write concisely
- write names and titles correctly
- use correct spelling, grammar and punctuation
- take pictures
- work under deadline
- work with a partner
- use a mobile device
- shoot short videos using Vine (a micro videoing application)
- follow instructions

Sample scavenger hunt challenges include:

- Ask a lecturer or professor what they think the role of social media plays in social change
- Ask a student where they get their news, and if they use social media to keep up with the news
- How does the university contribute to cutting edge research and/or learning?
- Take a photo or get a quote about a student club, organisation or society you find interesting

In 2013, it was suggested that Journalism lecturers teaching on the Level 4 Journalism Skills: Print News and Features module at the University of Hertfordshire include a similar activity, with the aim of both improving students' knowledge of the campus and facilities and encouraging them to use an Increasingly important media research and communication tool.

Students were allowed 90 minutes in small groups to answer 10 questions, and post their findings under a group hashtag on Twitter. This was called the

Journalism Twitter Treasure Hunt (using the word "treasure" rather than "scavenger" to better align with British English terminology.) Sample questions include:

- Ask a member of staff what is their favourite improvement to the campus this year, photograph it and the member of staff

- Who is the most famous sports person to use the Hertfordshire Sports Village?

- Tell us about a really interesting speaker who is coming to the University to speak to the students of any school

- Which cafe in DeHav sells the most coffee?

Of the cohort of 137 students on the module, all were given the opportunity to take part and every team within the cohort contributed. Feedback from participating students included the following comments:

"It was much better than following the Heritage Trail around campus, which takes ages and you just go around reading stuff"

"It became a real challenge to do better than the other teams"

"We thought people wouldn't talk to us or let us take their picture but actually people were really into it once we explained what we were doing"

"It was fun, the time went really quickly"

"It made us go and find things we probably wouldn't have bothered with otherwise"

Due to the success of this activity, it was suggested that this activity be adapted for use in the proposed Mass Comms induction module *Introduction to Media Practices*.

Findings and Discussion

It is the author's assertion that Twitter is an effective learning tool when used in a structured and defined manner within a specific programme of learning.

The benefits to the students are journalistic (they are getting hands-on experience of a journalistic tool); collaborative (they work in teams to earn points); experiential

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and practical (the exercise forces them to get to know their university, campus, faculty and peers in a real-life context). Responding to the suggested use of Twitter as in induction activity, a Twitter spokesperson said: "Twitter is a tool for self-expression, human connection and discovery - qualities that make it well-suited to the education sector.

"From academic researchers telling stories with data, to school teachers bringing history and literature to life in Tweets, imaginative and creative uses of 140 characters are helping to bring teaching and learning to life for students and educators alike." (Twitter UK, 2014)

Fox would add that Twitter has a broad student appeal, even outside "personal" usage. "Most of the students are receptive to the Twitter Scavenger Hunt. They like the challenge." (Fox, 2014)

There are some preparatory considerations when planning the use of Twitter as a learning aid, and specifically before setting up a Twitter Scavenger Hunt. A tutorial or "Twitter 101" for students (and for staff who are unfamiliar with the platform) is necessary before the planned activity. Students need to practice the use of the hashtag to group their comments and contributions. A set of "course" or "module" Twitter accounts with a finite maximum audience size of the set student group could be considered if students are unable or unwilling to use personal accounts.

Effort made before the start of a module, for instance to set up a Twitter page for each course, can help overcome any hesitancy on the part of some students to participate in a public forum. Once students get used to a new format, and become familiar with their peers on the course, staff connect more effectively with

Due to the possible perceived "casual" nature of Twitter, there is also a risk that students might misinterpret information or misapply knowledge, or find it difficult to synthesise outcomes correctly where Twitter is used to collate information. This might be exacerbated by the 140-character limit of a Tweet. In a more formal learning activity this would have to be considered and possibly offset with prior training and discussion, but for the less formal structure of an induction tool, it would not present itself as a problem.

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Furthermore, student engagement with Twitter as a learning experience is largely dependent on it being presented as a professional, industry-relevant tool which is contained and separate from their personal use of the platform. Some students are reluctant to engage if they perceive a lecturer's use of Twitter to be intrusive, or to invade their private "Twitter space". Poor use of Twitter by a lecturer to "talk to" students about academic matters outside of the agreed format could be likened to a lecturer turning up unannounced at a student's front door to offer further tuition or engage in unwanted discussion or inappropriate interaction.

Abe and Jordan (2013) address "faculty concerns" arising from social media causing "blurring of the lines between the personal and professional roles of the lecturer and students" (Abe & Jordan, 2013, quoted in Fox, 2013).

It is therefore essential that a set of professional "rules" are established within a learning community, to provide an acceptable framework for both faculty and students. The use of Twitter in the dual sense of personal and professional user is also a good graduate and employability skill to promote among students who will have to navigate this usage once in employment.

On balance, the potential benefits of introducing Twitter into the classroom outweigh the issues raised, as long as its limits are recognised and offset.

Dr Andrew H Clutterbuck, Pro Vice-Chancellor (Student Experience) of the University of Hertfordshire, believes Twitter and other social media platforms to have "great potential" within HE, and HE induction programmes.

"They are fundamentally democratic in that they can subvert (in a positive sense) the traditional power structures between, education, tutor and student. Communication is open, transparent, and outside of the traditional modes of exchange that have developed to support a particular view of the relationship between the teacher and the taught. In a higher education context that seeks to encourage partnership working, student engagement, personal autonomy and personal responsibility such openness and democracy can, in my view, be only a positive contribution to the student (and staff) experience." (Clutterbuck, 2014)

Dr Clutterbuck believes use of social media also helps both students and staff to

engage with each other and build more effective learning communities, enabling them to show themselves as "complete" rather than "two-dimensional" people, revealing interests, hobbies, challenges and fears outside their perceived role. "Such 'humanising' can, from my perspective, only be a good thing in building up understanding, mutuality and a shared sense of community," he says.

However, new technologies must be skilfully integrated into learning programmes and their use monitored, adapted and assessed for effectiveness rather than adopted broadly and without critical application.

The full potential of social media in HE and in HE induction programmes remains to be exploited. This is a challenge requiring the creative skills of teachers and students to design and explore novel ways of using the technology. Rather like the social media themselves, however, which thrive on organic development and are user-oriented in their deployment, there is a risk if the use of the technology is overly constrained and its outcomes pre-emptively defined.

Conclusion

A Twitter Treasure Hunt activity will be incorporated into the new Introduction to Media Practices 15-credit Level 4 module at the University of Hertfordshire. On reflection of the benefits and potential challenges of using Twitter as a learning and communication tool in an HE setting, the author believes that the benefits outweigh the potential issues, particularly when used with the demographic of media, mass communication and journalism students for whom the need to familiarise themselves with social media as an industry tool is paramount.

It is also likely that students coming to the Mass Comms programme from Hertfordshire International College (HIC) will also take the Introduction to Media Practices module. For this demographic, contending with unfamiliarity with the campus, local region, language and culture, the need for an effective induction experience is even more crucial, and the author believes the Twitter Treasure Hunt will prove beneficial in aiding the transition into life at the University of Hertfordshire.

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To conclude, using Twitter as a classroom tool would improve the induction experience for Level 4 Mass Comms students because it would, at the same time, engage the students using a platform with which they feel at home, one that "belongs" to them, and also challenge them to stretch their use of this platform in new, media industry-appropriate ways.

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In addition the author would like to declare a personal connection to Twitter, in that her husband Lewis Wiltshire is Director of Media Partnerships, Twitter UK. This article is an independent piece of work carried out in connection with the author's own research interests in the field of social media, and her personal academic studies. The comment from Twitter included in this article originated from the Twitter UK communications department, specifically from a Twitter in education perspective, and not from Lewis Wiltshire.

She would also like to acknowledge the aid of the Level 4 Journalism students who took part in the Twitter Treasure Hunt.

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Screencast Feedback Method for Software-based Assessments

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Introduction

Feedback is a necessity for students to help them to understand why their coursework has received a particular grade as well as to offer them useful information on how they can improve their work in the future. The National Union of Students (NU S) Student Experience Report (NUS, 2008) ,has shown that students are not happy with their feedback with slow delivery of feedback from submission deadlines, inadequate information in the feedback and some feedback being seen as a hindrance to their learning (National Union of Students, 2008). According to Orsmond et al. (2005), feedback is given, as it is believed it will promote learning, enhance motivation and should give students information that will help improve their future work. Unfortunately many of Higher Education (HE) establishments are utilising quick fixes to combat the issues around feedback, such as telling students that they are continually receiving feedback (Boud and Molloy, 2012). Of course this might prove useful to the students, but it is clear that students perceive feedback as the feedback they get when they complete an assessment, and this is where we can really make a difference.

Year of NSS	Percentage agreed
2008	56%
2009	57%
2010	58%
2011	61%
2012	64%
2013	65%

Table 1. NSS Survey results for full time students in England based on the statement: 'Feedback on my work has helped me clarify things I did not understand'. (Hefce, 2013)

As can be seen in Table 1, students' perception of feedback has improved over the years, but further work is needed to help students see that their feedback can help them and be useful in other aspects of their education as well as in their future workplace or professional environment.

Many of the assessments that I set are practical ones, where a student will use a piece of software called a Digital Audio Workstation (DAW) to mix or create music (figure 1).

Figure 1. Screenshot of multiple DAWs

The students submit their work as a software file that I can then open on my computer to view everything that has been done. In the past, I have had this open and then typed comments in a word document: a traditional way to receive feedback. This article looks at improving feedback for students by examining the use of screen-capture technology (screencasting) to record the students' work on the DAW. Screencasting records all movements of the cursor on the screen along with audio commentary from the lecturer marking the students' work. I have used this feedback method for a number of years now and have had very good results, refining the methods used each time.

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This article will discuss the use of feedback, its purpose and problems associated with the different types of feedback given. Screencasting feedback presents solutions to some of the current problems of feedback, including promptness, comprehension, reducing the level of abstraction from students' work, and offering a refresher on the work completed. This article will also look at how successful this project has been for a recent group of students, and draw conclusions based on feedback received from the students.

A Review of the Literature

Why give feedback?

Teacher-to-student feedback is given to inform the student of whether their work has been well received, and can be used to help develop their ability to think critically, promote learning, enhance motivation and should give students information that will help improve their future work, (Orsmond et al. 2005). The importance of feedback according to Brown (2007) is increasing as a way of providing students with vital comments to allow self-reflection to be of genuine benefit to the student. Self-reflection and evaluation is an important role in the student learning experience (Kolb 1982) and feedback supports these experiences. Bloxham and Boyd (2007, p20) identify feedback as 'the most important aspect of the assessment process in raising achievement'.

Problems with feedback

As we have seen from Table 1, 65% of students in 2013 found that feedback on work helped clarify things that they did not understand. MacLellan (2001) suggested that students would only start to improve their learning when they perceive feedback as enabling learning, rather than just seeing it as an achievement indictor. When students are given feedback, they tend to be informed of what they did not do, but not how to change it, (Paukert et al. 2002). So a student for example may be told that their work needs 'better structure', but are not told how they can achieve this. This can be de-motivating for students, especially those with low self-esteem, (Young, 2000). Academic workloads at universities are high and feedback is considered by many academics to be very time consuming, (Carless et al. 2006).

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It can take a long time to write detailed feedback on how a student could improve their work and this may be one of the reasons why a lecturer may not include sufficient detail in their feedback.

	Written Feedback	Verbal Feedback
Response	May be delayed.	Immediate.
	Does not include non-verbal, e.g. tone of voice, facial expression, body language etc.	Normally interactive. Speaker can monitor response and adopt different approaches.
		May include non-verbal.
Record	Permanent, legal record.	Usually no record, except with audio/video tape.
Place	Sender and receiver need not be in the same place.	Sender and receiver need to be in the same place or time e.g. face-to-face, telephone, teleconferencing.
Detail	Can be very detailed.	Usually less detailed.
Privacy	May be very private.	May be very private except feedback to a group.
Time in Preparation	Usually high for drafting and editing.	Varies. Usually low.
Time to receive feedback	Shorter. Reading takes less time than listening.	Usually longer.
Relationship	May be impersonal.	May build individual relationships.

Control of message	Writer does not control, if, when and how thoroughly message will be read.	Speaker controls when and how thoroughly message will be heard.
	But the permanent record serves as an aid to interpretation of and reflection	But it is hard for the listener to reflect accurately on the spot.

Table 2. Differences between written and verbal feedback (Wong, 1994)

The NUS Student Experience Report from 2008 reported feedback methods being 85% of students receiving written feedback, and 25% verbal feedback (face-to-face meetings) for exams (NUS, 2008). This improved slightly to 77.9% receiving written feedback, and 39.3% verbal feedback in 2012 (Higher Education Academy, 2012). Wong (1994) outlines the differences between written and verbal feedback in Table 2 . Although verbal feedback is a becoming a preferred method for students, with 66.1% of students requesting verbal feedback compared to the 39.3% actually getting it (Higher Education Academy, 2012) the lack of a permanent record, or the needed time to reflect on the feedback are issues. This is of particular importance, as students need to reflect to interpret and fully understand their feedback.

Merry & Orsmond (2007) Rotherham (2009), Cooper (2008) and others have developed and used audio feedback saved as audio files and sometimes delivered as podcasts, over the past few years, which can serve to resolve these issues. Merry & Orsmond (2007) found that it would take an average of 5 minutes to give audio feedback on a 2,000-word piece of coursework, compared with the usual 30 minutes to write feedback. This significantly reduces time for lecturers, helping overcome the workload issues raised by Gibbs' (1992) and Carless et al. (2006).

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By using audio feedback, students tend to receive the feedback earlier, which can overcome the issues of students not remembering the process of their work they have submitted. MacDonald (1991) comments that the brain does not receive feedback on something two weeks after it has been completed. So a student will submit a piece of work, but then forget the process they went through on the work, and the exact details of what they did. This can cause disagreements with the feedback and the grades awarded if they receive it late. In 2012 there were still 15.1% of students receiving feedback on their work over 5 weeks after submission (Higher Education Academy, 2012).

Audio feedback has been well received by students in the studies mentioned above. Audio feedback is influential to students learning as it meets many of the requirements for effective feedback that are outlined by Brown et al. (2003). These include the work being more detailed, prompt and comprehensible to students. When audio feedback is given, the lecturer tends to speak more naturally than they would write, and can take more time in explaining complicated areas to students, (Merry & Orsmond 2007).

Screen-capture software (screencasting) is being frequently used to create video tutorials for software-based modules, such as those using Pro Tools, Logic etc. in Music Technology courses. According to Treichler, (1967 cited in Xiao et al. 2004: 367) 'People generally remember 10 per cent of what they read, 20 per cent of what they hear, 30 per cent of what they see, and 50 per cent of what they hear and see'. As stated by Tempelman-Kluit (2006), 'meaningful learning occurs when connections are made between the information in the visual- and the verbal-processing channels of the working memory'. Mayer (2001), calls this the 'modality effect', providing deep learning, rather than surface learning, that tends to be obtained through just one mode of delivery (only listening to a description of something, or just seeing some pictures for example).

This can be taken on step further using screencasting for video feedback (Stannard 2007), (Brick & Holmes 2008) and (Rotherham 2008). Screencasting in studies above, is used for annotating written assignments, capturing all highlights and annotations as the lecturer types them on the students' work, as well as recording audio commentary of the lecturer. The method of feedback has been received well by the students in these studies, and can help overcome the problem of students forgetting their work after two weeks, (MacDonald 1991), as they see their work again so can relate to it straight away.

According to Fleming (2014) learners have different learning styles, which fall into four main categories, Visual, Aural, Read/write and Kinesthetic, (VARK). Video feedback using screencasting can cater for more modalities than just using written feedback or audio feedback. Video feedback also resolves the problem of written feedback creating a level of abstraction of the ideas from the work with which they are associated (Tempelman-Kluit 2006).

Although there have been studies using video feedback (video of the lecturer talking, videos of the students doing their work etc), using screencasting to create video feedback has mainly been used for commenting on written work. This article looks at the use of screencasting video feedback to capture movements of the mouse on software DAWs, such as Pro Tools and Logic, where a student has submitted their assignments via these media.

Methodology

To assess the usefulness of the screencasting video feedback, and the response from the students, a questionnaire was devised and was emailed out as a Google Form to complete. The students in the group had completed two pieces of similar coursework where they were asked to mix a track in Logic. They received traditional written feedback (typed word document) for one assignment and video feedback for the other. They were asked to compare the two methods of feedback. General questions on the platform and browser they viewed the video feedback on, as well as whether they had any technical issues with it were asked.

The next set of questions were designed to get the students to think about which method of feedback was the most useful, which they preferred the most, what method they would like in the future, and why. The students were also asked what they liked best about the video feedback and why, and whether anything could be improved.

Activities/Practice

There are various different types of screencasting software available for both Macintosh (Mac) and PC. In this study Macs were used to create the video feedback with an application called Camtasia for Mac (TechSmith, 2014)(figure 2), which was used to capture all movements of the cursor on the screen, as if you have a video camera pointed at the computer monitor. It will also record audio commentary from the user via a USB headset, and the sounds created from the computer, such as something playing from the DAW (e.g. a passage of music). In this study, the student submitted their project session files on a DVD. I then opened up the student's work, switched on Camtasia, and then navigated the student's work whilst making audio commentary about the open project. It allows you to click on any of the software's parameters, playback parts of the music and talk through it, just as if I were sat with a student discussing their work on screen. I can change things, show them how they should have applied various parameters and how they can improve for future work.

Figure 2. Screen-grab showing recording window in Camtasia for Mac

In Camtasia, the video can be scaled down to help reduce the file size. This is important, as video files can be quite large. The files, even when compressed, are too large to send to most email clients, so in this study they were hosted online using Screencast.com (TechSmith, 2014). This would be the same as other streaming videos on the Internet such as those offered by YouTube, Vimeo etc. It saves time (as the file plays progressively as it downloads), and allows instant access wherever the student may be, (Hartsell and Yuen 2006). The option was given to student to download their video feedback so that they could play it in most video players, such as QuickTime, iTunes etc. as well as being able to play it on an iPod or mobile phone(figure 3).
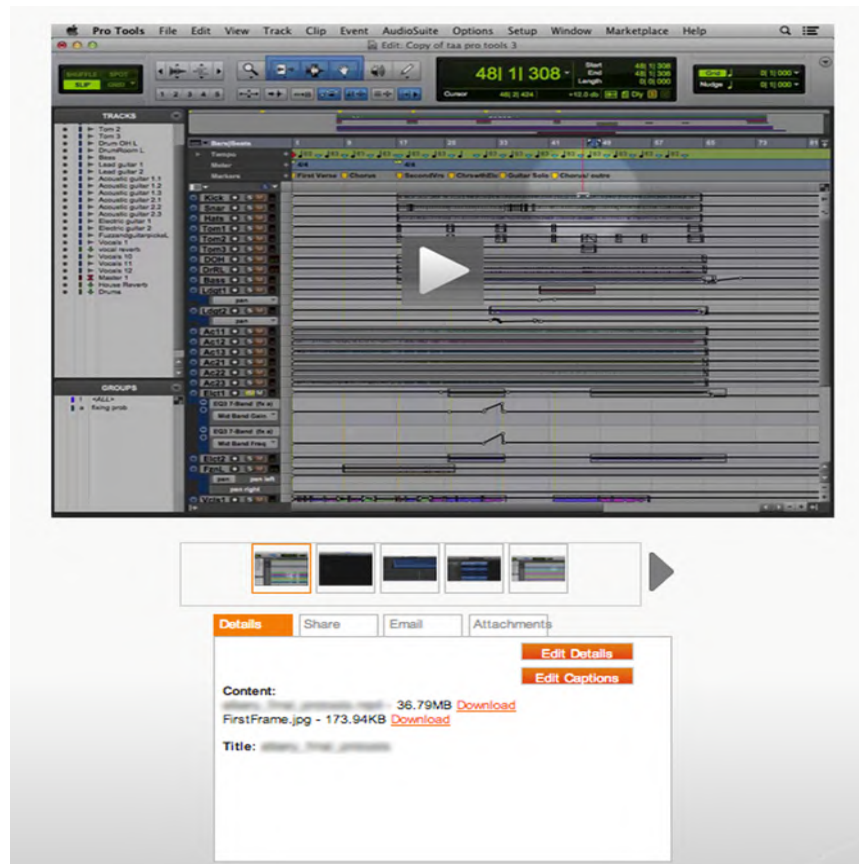
Figure 3. Example screen-grab of the Internet page that students will see for their video feedback

Students were emailed a link to their video feedback with a username and password, which would prevent other students guessing each other's link, and subsequently viewing other students' feedback.

Most videos last around ten minutes, which was felt to be adequate to give an appropriate amount of feedback to the student. According to Stannard (2007), a '2 minute [screencast] video feedback recording could provide the equivalent of about 400 written words'. Therefore ten minutes of video feedback would be approximately two thousand words. Many written feedback sheets only give half a page of space for written feedback, so screencasting allows for significantly more feedback to be given. I was already fluent in using this technology, so didn't have any problems using the screencasting software. All of the videos were done in one take, so there was no need for editing. The software does allow you to edit, but this can take up valuable time. I have found that students do not mind if you make

slight mistakes, say 'um' or pause, for example, so there is no point in editing these out. Various positive comments are that students feel it is like getting a face-to-face tutorial, and these cannot be edited! One of the issues with video feedback is the time taken to load them onto the Internet. Luckily this can be done in bulk, and in the background whilst working on more feedback. In my experience , I can do the video method as quick if not quicker than writing feedback for students. For someone new to the technology, it may take a little longer to become comfortable with the software. With more practice though, this time would be reduced. An example of the video feedback can be found at: http://www.screencast.com/t/pG5ZPMce

It can sometimes be difficult to see the mouse when I move it around the screen. Therefore a program called Mouseposé (Boinx Software Ltd 2014) was used, which highlights the mouse and changes colour when the mouse button is clicked. The software can also show the key commands, see figure 4.
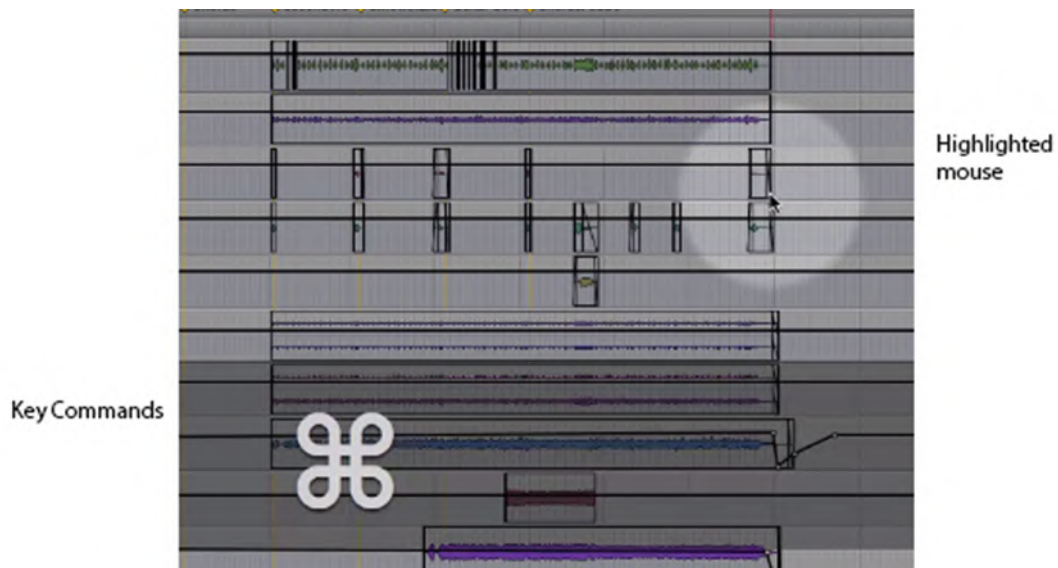
Figure 4. Mouseposé program demonstrated showing highlighted mouse and key commands in Pro Tools

Twenty-six students were given written feedback for one assessment and video. Seventy-seven per cent of students completed the online questionnaire, resulting in twenty questionnaires.

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Results/Discussion

Platform

Students used both Macs and Windows platforms for viewing the video, as well as three different browsers, Firefox, Google Chrome and Safari. Only two students had issues with their videos taking time to load, but these issues were resolved.

Most Useful Method

When asked which method (written or video) was the most useful to students, one hundred per cent selected video feedback. A number of students commented that it was more detailed, easier to follow and understand, and they could follow the sections I was discussing:

'It's easier to understand what [the] tutor tries to explain'

'I could watch you [lecturer] identify exactly the parts of the coursework that you were talking about'.

An important aspect of feedback is how it can be used in the future. There is little point in feedback if students cannot reflect on it and apply it to future work. Students commented that it was easier to relate to for the future and that it included how to improve on future work.

'It's more useful because it's something I can bookmark and look at any point in order to aid my work.'

'I was able to visually see my errors, and was provided with clear instruction as to how I could improve.

Most Preferred Method

When asked which method of feedback they preferred, again one hundred percent selected video feedback. Some comments were the same as above, but additional comments included how it was more personal and comprehensive.

'Video feedback seemed to be more thorough and personal'

'…had a more humanistic approach telling you where to improve as opposed to a set of words telling you where you went wrong'

One hundred per cent of students would prefer video feedback for future work, although understand it might not be appropriate for some assignments.

Most Viewed Method

Another question asked was which method did the students view the most and why? I wanted to see whether one method needed more attention due to its complexity, or perhaps its usefulness. In the future I think I will need to ask more directed questions, as the results were a little unclear. Thirty per cent of students viewed the written feedback the most, and seventy per cent viewed the video feedback. Students who viewed the written feedback more said it was due to it being quicker and easier to access. Videos can take time to buffer, and if you have to watch through ten minutes of video compared to quickly reading of a sheet, their point is justified. However all students that wrote this still preferred the video feedback, thought it was the most useful and would like it more in the future.

The comments for why they viewed the video feedback the most was due to similar results of why they found it the most useful – easier to understand, remember and improve. One student said it made them feel good about their work, which of course is what we as lecturers want to achieve.

'It made me feel good about my work still'

Best thing about video feedback

Again, results to this question were similar to what the students had previously discussed in other questions. I wanted to draw your attention to a couple of comments that stood out though.

'It physically went through almost all of my work explaining what I could do to improve. which I found far better than just being given a grade and piece of paper. The video actually shows what you need to improve on and is like a 1 on 1 recap

of your coursework.'

'This isn't like usual feedback where you may not remember or think enough about the issues with your work.'

'It was addressing me directly with an in depth opinionated response as opposed to a scrap of paper where you can't tell the tonality of the feedback and there isn't time or space to write down everything the tutors feel about the work.'

I think that these comments support the use of video feedback, showing that students want to have a lot of detail, explanations on how to improve, and a personal touch.

Improvements for Video Feedback

Sixty per cent of students did not comment in this section, but those who did asked for more in depth discussions (although realise it could be a long video), a different video platform (although again, realised this might take time to sort) and a timestamp of where I say the grade. All valid comments, although with most videos being approximately equivalent to two thousand words, I feel this is in depth enough compared to most written feedback. I am currently looking at other platforms for the video, as Screencast can have a tendency to take a while to buffer. As for the timestamp, I believe if I gave a timestamp of the grade, students might not watch the full video, so will continue to leave this for them to find when they watch the full video.

Conclusion

Through the evidence given by this modest number of students it is reasonable to suggest that video feedback created with screencasting software, has been well received. All students thought that the video feedback was more useful, which is probably due to the fact they can see what I was explaining, reducing the abstraction of the feedback from the work with which it is associated. Students are able to view the video feedback on multiple browsers and platforms, as well as accessing it through the Internet. They can watch it multiple times if they choose to and download it.

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I have already started investigating using video feedback as part of a formative assessment strategy across their module, where students can submit parts of their uncompleted work before the final submission. Results are proving well, enabling students to benefit from the flexibility that this e-learning approach provides at an earlier stage, and potentially help them achieve a higher grade for their summative submission.

I hope to find a quicker way of loading feedback online, as well as providing a better host with faster capabilities. There is still a lot to learn for this method of feedback, but I feel that it has been worth the effort and should benefit future students in their work.

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Student Voice

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Praveen Bingi

I would like to thank the editors of Blip for giving me the opportunity to reflect on my experience of undertaking a doctoral degree (PhD) at the University of Hertfordshire (UH). My particular area of research involves looking at how oxidative stress and statins regulate the inducible nitric oxide synthase (iNOS). When I did background research on this area I was fascinated by the controversy involving the iNOS enzyme and also very interested in the ongoing debate regarding the usage of statins. As a result I was inspired to take up this area of research. I chose the University of Hertfordshire for my PhD, as it is one of the fastest growing universities in the area of pharmacology. I was excited by the employability opportunities my studies would lead to and the enthusiasm and backing of my supervisors. I feel I have had access to all the all the facilities and support needed to pursue my PhD. There was good supportive guidance such as generic training sessions with a particular emphasis on skills required for the PhD. The contribution of my principal supervisor was immense and I feel very fortunate to have such support during my PhD. He has encouraged me right from the beginning of my project and guided me in every way that was needed, was constantly reviewing my progress and giving me the necessary suggestions. My colleagues and the seminars and research conferences I have been able to attend have made my PhD journey a very inspiring and memorable one. The Information Hertfordshire (IH) library facilities have provided access to all the resources I have needed. The administrative and technical support provided by IH has been excellent.

My advice for prospective PhD students is to choose a subject area that excites you. Genuine fascination with the area of research helps you to learn quickly and provides motivation to carry you through the times when experiments are not working out as planned. .

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In my experience this university provides you with all the necessary resources and expertise to support you during the course of the project. As a PhD student at this university you will be joining a vibrant community of renowned and adventurous students who create the environment of limitless possibilities.

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Incorporating **The Blended Learning Unit** a Centre for Excellence in Teaching and Learning