



Innovative Practice in Higher Education

Special Edition

This special edition of the Innovative Practice in Higher Education journal includes papers from the first two volumes spanning the period 2010 – 2016

2017



Innovative Practice in Higher Education: The First Five Years

The subject coverage of this journal is both deep and broad. Here is a short, highly partial, description of some of the topics and works that have gained my attention. It is striking that social media, for example Twitter, is prominent across a range of articles. Texting is also discussed as a means for engaging students. In tandem with this the related topic of e-learning remains an area of interest. Student participation in curriculum design, inquiry-based learning, visual metaphor, reflection and feedback all catch the eye amongst the rich and diverse range of topics discussed. The variety of subjects taught by authors in this journal ranges across the academic spectrum from the sciences for example Biology right through to the Arts such as dance. Innovation and imagination is in abundance as evidenced by the article *The Simpsons in Higher Education* by Ian Turner and Cristina Plant. The authors demonstrate this novel approach by exploring the use of popular culture in Higher Education (an under explored phenomenon according to the authors) which uses the animated US TV show *The Simpsons* as a case study. *The Simpsons* was used in two Higher Education settings from the humanities to the sciences for contextualising theories and concepts. They clearly show how popular culture, when applied effectively, can be a powerful aid to learning, increasing student engagement, understanding and enjoyment. Contentious issues are not avoided for example Jo Dawson discusses, in her poster presentation, the highly controversial notion of the digital native and how it might affect creativity.

Emotion in learning, especially anxiety, is also analysed, a topic gaining interest as mental health appears to be a more prominent issue in HE than in the general population. With that in mind it is pleasing to see that Liz Boath attracts the accolade of most cited author with her papers attracting both the highest and second highest number of citations. The most highly cited paper in the journal is *Tapping for success, A pilot study to explore if emotional freedom techniques (EFT) can reduce anxiety and enhance academic performance in university students* (with Anthony Stewart and Angela Carryer). The second most cited paper is *Tapping for PEAS: Emotional Freedom Technique (EFT) in reducing Presentation Expression Anxiety Syndrome (PEAS) in University students*. The third most cited paper is by Christine Stevenson and Joan O'Keefe. Their article *Developing students' research and inquiry skills from year one: a research-informed teaching project from the University of Sunderland* demonstrates that, with the right learning and teaching intervention, students' expectations of HE can be addressed, their potential developed and gaps in their scholarship and research skills reduced during their transition from further education (FE) to HE. Ian Turner (again) and Ellen Beaumont's article attracted the attention of the *Times Higher* in 2013 with their article *Lonely Heart Columns: A Novel and Entertaining Way of Teaching Students Abstract Writing Skills*. We were very pleased that our authors were clearly demonstrating their ability to create this kind of high profile impact in the sector. I have only picked out a few articles, I have to say there were many more contenders. I leave you the reader to saddle up and take your own journey through this rich landscape of academic scholarship.

On a final note, I am confident that with the stewardship of Chris Wakeman and Dave Parkes, as Joint Managing Editors, Innovative Practice in Higher Education will continue to go from strength to strength and increase its impact on teaching and learning in HE for many years to come.

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Student perceptions of the emotional and academic outcomes of participation in a group process module¹

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Abstract

Literature suggests that collaborative group work is conducive to productive learning. However a growing sense of uncertainty about the academic value of an undergraduate module that made use of group work led to the desire to gauge more fully students' perceptions of this way of learning. An interpretive methodology, using a focus group and questionnaires, was employed to address the question. The importance of the maintenance of trusting relationships between the students, and between the student and tutor emerged strongly, along with the positive value of a clear and explicit direction for the group. A model for thinking about how to structure and frame such groups and how to position oneself as a tutor within such groups is proposed in response to the findings. The author concludes that paying attention to the relationship between educators and learners is vitally important within the context of group-based teaching and learning.

Keywords: group-based learning, collaborative learning, educational relationships

Introduction

This paper outlines the findings of a research project conducted within the *University of Derby* and financed by a Teaching Quality Enhancement Fund and conducted during the 2007/8 academic year. I will begin by putting the research into a situational and theoretical context before outlining the methodology adopted. Examples from participants' conversations will be used to illustrate a number of emerging key themes, from which a tentative model for thinking about process groups within higher education is put forward.

The module that provoked this research is entitled *Interpersonal Development (IPD)* and is seen as a key component within an undergraduate degree programme, entitled *Creative Expressive Therapies*, that aims to develop an understanding of the therapeutic and expressive potential of creativity within health, education and community settings. The programme integrates traditional lecture-based learning, arts-based workshops and

studio practice. The general philosophy that underpins the ethos of the programme is that the arts can aid the expression and communication thoughts and feelings in both a complementary and alternative way to the spoken or written word. Enabling such expression can help to develop increased levels of personal self-esteem, confidence and well-being as well as contributing to better understanding between individuals (Rogers, 2000). It is a model that has its roots in occupational therapy, the various arts therapies, community arts, as well as arts-based and participatory research methodologies that have been developed within the social sciences over the last ten to fifteen years (Gauntlett, 2007). Destinations for students after graduating include such professions as primary education, social work, human resources, community arts and the various arts therapies.

Students on the programme have a range of arts-based backgrounds, including visual art, drama, dance and music. The IPD module is a level 5 module and is worth 15 credits. It takes place during the second year of the programme, with the cohort of approximately forty-five students being divided into three groups of fifteen. The module runs for twenty weeks across the autumn and spring semester and is assessed by the students writing a three thousand word essay in which they are asked to reflect upon their own experiences of being a member of the group, their observations of the group's development, and the role of the arts within those two. The three groups are facilitated by different members of the staff team, but are structured in the same way, with each group meeting being conducted in the following way: thirty minutes of reflection upon the previous meeting(s); thirty minutes exploring a set text; one hour and fifteen minutes of using arts-based exercises to explore themes that have emerged during the earlier reflections upon experience and responses to texts. Students take turns in leading the reflections and responses to texts. The arts-based exercises are at first directed by the staff facilitator but as the group develops students are encouraged to take responsibility for their design and implementation.

Experiential in nature, the module has the aim of facilitating the exploration of interpersonal dynamics and group processes, with its theoretical basis grounded within psychodynamic thinking (Yalom, 2005), group process theories (Agazarian & Peters, 1981) and creative group work (Doel & Swandon, 1999). It also acknowledges the power of learning through experience within groups (Bion, 1961; 1962) and makes use of reflective practice (Schön, 1983). The module, with its focus on group processes, is deemed to be of value to the programme it is situated in because in order for students to become effective arts-based facilitators it is important to understand from first-hand experience the kinds of events and forces that can shape groups, and the ways in which the arts can facilitate group development and cohesion. This type of group is more commonly used within postgraduate courses and particularly those that lead to professional qualifications, for example masters programmes in Art Therapy and Dramatherapy; as such the research literature about these types of training group tend to focus upon the postgraduate experience (Payne, 2004; Poulsen & Nathan, 2004; Swan-foster *et al*, 2001) rather than the undergraduate experience. What emerges from those studies is strong evidence of the developmental potential of such groups, with an acknowledgment of their problematic nature in terms of the impact they have upon the relationships between participants as students and a

resultant need for such groups to be framed and timed appropriately. Research that focuses upon the undergraduate experience is concerned more with collaborative group work than with process orientated groups, but there is a recognition of the strong force that interpersonal factors will have upon the student experience and the need to time the group accordingly to avoid a loss of focus and an increase in student frustration (Bourner, Hughes & Bourner, 2001). Group work then, regardless of the amount of explicit attention to interpersonal processes, has been shown to be of value, although problematic, and my own reflections upon being a facilitator of IPD groups confirmed those findings. I also had a growing sense that the module did not quite fit with the overall aims of the programme (that has been through a number of revalidations since its inception in 1993 including a gradual shift of emphasis away from an exclusive focus upon creativity within therapy towards creativity in other contexts – education for example). I also had concerns that the module raised feelings of anxiety and uncertainty within the students beyond an acceptable level.

At the same time as this growing unease there was an awareness of the steady emergence within primary and secondary education of the need to attend to the emotional component of teaching and learning. The *Social & Emotional Aspects of Learning (SEAL)* initiative promoted by the *Department for Education & Skills (DfES, 2007)* is a good example of this development within primary education, whilst the *Caspari Foundation* (<http://www.caspari.org.uk>) has been advocating for the inclusion of a psychotherapeutic perspective within children's education for some time. A key component of this turn towards the emotional is the value placed upon relationships that are based upon trust and foster a sense of belonging, with the relationship between peers and between students and teachers being of equal importance. Cherrie Kassem, in reviewing earlier research writes that "the cooperative learning gurus, maintained that developing a positive classroom climate involved creating a situation in which students felt cared for, accepted, and safe" (2002, p.364) and encourages teachers to build trusting and meaningful relationships with their students and to facilitate an awareness of group processes and dynamics within the classroom.

Concerning the place of emotions within higher education, researchers from Sheffield Hallam University (Beard, Clegg & Smith, 2007) state that the affective is always present within higher education even if it is often downplayed when there is an over emphasis upon cognition and rationality. They go on to describe how learning comes about through participation within social interactions, and that situated self-esteem (self-esteem that is grounded in social feedback rather than personal perception) is key to this intersubjective approach to the construction of meaning within education. The authors do take rather a critical and limited view of anything that appears to stray into the realms of therapy when reviewing the concept of self-esteem, but I would argue that they base this upon a limited view of therapy and fail to consider therapy within a group context. However the research they conducted with first year undergraduates revealed that students placed great emphasis upon the development of relationships between themselves and with their lecturers when describing their emotional journey through the first year - with self-esteem being very closely bound up with the quality of those relationships. Similar results appear in another

piece of research with first year undergraduates, conducted by Dilly Fung (2007), that aimed to explore the metaphors students use to describe their adjustment to higher education. Fung writes:

“In a very wide variety of ways, students’ narratives represent learning as arising from collective and interactive experiences, rather than from individual approaches to study which may characterised as ‘deep’ or ‘surface’. They do not construct learning as something happening solely *within* themselves as individuals, but as something which happens to groups through interaction.” (Fung, 2007, p.6)

The key message then that emerges from research literature is that trusting and supportive relationships between all participants within education enables the development of self-esteem and the construction of learning and meaning, with group based learning having the potential to contribute positively to that.

On the one hand then was a wealth of supportive research concerning the potential for groups within education, whilst on the other hand was my own concerns about the way the module I was responsible for delivered that potential. At the start of the research process the enquiry was not so explicitly focused upon the relationship component of the module but more upon the link between the affective and cognitive elements of the module. As such the aim of the study was to assess student’s perceptions of taking part in the module, so as to enquire as to the ways in which the experience impacted upon them academically and emotionally. That aim translated into an explicit question became: Does the module have a perceived positive, neutral or negative effect upon the student’s ability to be an effective and reflective learner within the programme as a whole? By conducting a systematic study I also had the objective of gaining student feedback that was qualitatively deeper than was currently possible through the module evaluation process.

Methodology

The evidence required to best answer the question asked was deemed to be qualitative in the form of verbal and written responses, through the use of focus groups – a cost effective way of gathering useful data about participant’s perceptions (Green, 2007) - and targeted module feedback forms. Ethical approval for the project was granted via the *University of Derby’s* research ethics process. Two research assistants² were employed to conduct the focus groups in order to minimise the distortion my involvement might have, as both a group facilitator and a focus group moderator. Of the three IPD groups that took place during the academic year under consideration, two had been facilitated by myself and the third by a colleague within the subject area. The conducting of the research took place during the second half of the 2007/8 academic year. Invitation to participate in the focus group was opened up to those students who had been part of the module in the previous academic year (the 2006/7 academic year), and of the dozen or so students who expressed an interest five eventually attended the focus group. Students were asked to sign consent forms, which included permission to use conversations within published material. Helpfully

those who did attend were drawn from the different groups within the module thus providing the opportunity for discussion and comparison to emerge. The conductors of the focus group were provided with the following prompts to help them structure the meeting should the conversation stall:

- Thinking about the emotional and cognitive component of the module – what was good about the experience?
- What was less good about the experience?
- In what ways did the module enhance your academic skills? (At the time and now)
- In what ways did the module diminish your academic skills? (At the time and now)
- What links do you think there are between the emotional component of the module and the development of learning styles and strategies?
- What have you been able to take from your experience of the group into other areas of the programme?
- How could the module be organized and delivered differently to aid the development of emotional and cognitive processing?
- Are there any areas of the module that you feel need further research?

The resultant transcription was analysed by the research assistants and me independently using thematic content analysis (Low, 2007). After independently identifying themes within the transcript we met to discuss how the different interpretations complemented or differed in order to select those themes that appeared to be the most consistent and frequent. The resulting themes were given to the focus group participants to make further comment upon. Only one participant responded to the emailed request to make comments upon the identified themes. Ideally a larger focus group, or two parallel groups, would have been conducted and a better response to the identified themes achieved.

As well as the data gathered from the focus group, the research questions were given to those students taking part in the module that were still meeting during the 2007/8 academic year. The questions were asked in addition to the normal module evaluation process that takes place at the conclusion of every module delivered at the *University of Derby*. Students were given the option of responding to the questions and asked to sign consent forms if they did wish to do so. A total of twenty-four students chose to respond to the written questions. Whilst less 'deep' than the focus group transcript the questionnaire responses did provide important parallel data with the questions being more targeted: *How has the module contributed to your emotional intelligence?* And: *How has the module contributed to your cognitive development?* However two issues need to be taken into account when considering these two sets of data and the merits of using them together. The first is that each cohort is different – different individuals will construct different group dynamics; the second is that the later cohort (those who were invited to respond to the written questions) experienced a group in which I, as the facilitator, had already responded to my initial concerns and conducted the group and myself differently to previous years. More will be

made of this later but essentially I was more directive, didactic and transparent within the group.

Emerging themes

Emerging themes from the focus group (summarised in Table 1) indicated that there were positive and negative components of the experience, both of which offered the opportunity for students to learn about groups – including how a group should not be run. Positive aspects of the group experience which contributed to learning included explicit use of creativity and theory in the group, in depth discussions about readings, and direction and involvement from the facilitator. The negative aspects that contributed to learning included the emergence of powerful group dynamics, feelings of chaos and of vulnerability and the many uncomfortable silences. The emergence of positive and negative aspects, and the extent to which those contributed to learning, was influenced by the structure of the module, the roles of the facilitator and of the participants, and the level of support offered. The lack of explicit structures, roles and support systems led to confusion about the purpose of the groups and the role of the facilitator and left some participants feeling very vulnerable. The negative aspects of the groups – which were accompanied by feelings of confusion, anger and frustration – could be seen as contributing to learning but they also evoked feelings of vulnerability. This vulnerability was compounded by the damage done to the relationship between student and tutor as a consequence of role confusion. The positive aspects of the group emerged more readily when the facilitator was more explicit about the purpose of the group, was more directive in their introduction of theory and creative tasks, and more involved generally. Explicit links between theory and experience, when made by the facilitator, also contributed to the positive aspects of the group with the essay helping to connect theory and experience.

I want to spend some time illustrating the themes of role confusion and support using examples of the focus group discussion. A key exchange that took place towards the beginning of the focus group; it follows a question one of the focus groups members had asked, wondering if having both men and women in the group made a difference to the mood of the group (within the transcripts 'Facilitator A' refers to myself and 'Facilitator B' refers to a female colleague):

Participant A: Not even male - just personality and the fact that I think there were a few people in our group that had that calming effect, but sometimes, as like you said, were totally saturated and couldn't kind of overcome it, and ours went off on such a level that we wanted it to, because we didn't have that kind of influence, and actually the tutor became a scapegoat for it, and we were desperate for him to have some input, because we kind of lost control of it. Whereas you sound like you had a really calm group so the tutor was just there as a witness.

Participant B: I suppose personally the first few sessions were very much, in my mind anyway, we were trying to figure out the roles in the group, and I reckon I developed and

talked to other people in the group as well. So there were benefits in contact. Potentially that was sort of laid out a little bit clearer, you know, the fact that it was a person centered approach.

Participant A: I think that was my main problem with it. If it is seen as therapeutic space, then people had to be given support, and on our course there is no support. If you are given that space, you need to follow it up and there needs to be something, that is acknowledged next to it, if it doesn't happen within, then there needs to be something to say, you know, this comes alongside the course, because its needed. Because in our group, people were like, so distraught, and they were just left to walk out. There was no security. I said that to [facilitator A], the whole thing is so unsafe, and also knowing that as a student what was going on with some of the members, and knowing how vulnerable they were. I mean for me the whole learning was how not to do it.

These themes are returned to throughout and a number of examples – taken from different participants at different points of the transcript - help to illustrate this:

As a facilitator, either you're running a therapy session, or you're not. And there's no middle ground.

Because at times we said there is no reason for you to be in here, and at other times we were absolutely desperate for him to say something, to hold what's going on and bring it back to where it was supposed to be, but we never really felt that did we?

In my essay I talked about transference, and as far as my personal transference with [facilitator A] being a facilitator, because I feel that his role wasn't sort of clearly set out at the beginning, sort of thing

The students were struggling with the search for clarity about the facilitator's role within the group, which was not contained by theories of transference due to the blurring of roles between facilitator and tutor. In particular one student found it hard to negotiate the transition between the two:

I think with [facilitator A] again, it might be the same, that role of teacher you know. And you do look up to them. And they have been there for the first part of the course, totally standing in front of you, educating you, da, da, da,...And then starting with IPD with [facilitator A] it wasn't just that transition, it went straight to him being, I am not involved, you're in control. Which I think probably that was fine, but I would have just liked that sort of transition to have been stated by him...

Towards the end of the focus group there was a lengthy debate about way the module could be delivered, the differences between facilitator styles and the effect upon the relationship between student and tutor of both being involved in the module. The following statements made by two different participants illustrate this point:

In terms of like, what you said about has it had an effect on my academic learning, I think for me now, this year especially, I seek out much more from my tutors. Like, I will go and see them and I will make them sit down, and make them talk to me. Because that's not going to happen otherwise. Because we just do not get, either the academic, or the emotional support on this course, that you maybe require. So, it's sort of, from that experience of IPD, I'm realizing how much of a brilliant resource [facilitator B] was as a tutor. In terms of my learning. I've sort of actively spent much more time going to my tutors, and like, having tutorials with them, and stuff like that. Especially around dissertation and things. Which has been very useful.

... it's really taken a lot for me to gain that contact with [facilitator A] again, after him being so detached in IPD. Like now, in my dissertation. Like, I've seen him like, a lot. Fortnightly. To talk about it. Because I know that he is this resource. Because he's a tutor. He's an experienced therapist. And he has this knowledge. But, in IPD I didn't think any of our potential including his, was used to it's best ability. I think everything was, just kind of, tiptoes in the water. Or headfirst dived in. There was no middle ground.

In summary then, the themes emerging from the focus group suggest that the students found that the module worked best when it worked more like a seminar, where there was a very clear expectation of what level the group should be working at, where the relationships between the students were not put under too much strain, and where the roles of student and tutor were maintained so that that relationship could continue outside of the module.

The written responses revealed that the students felt the module developed their emotional intelligence by helping them to become more aware of their feelings and to be more open about them, in an intrapersonal and interpersonal way. Whilst less prevalent than the focus group's experience, some students in this cohort also found the feelings evoked by their participation too overwhelming to aid emotional learning and there were also some feelings of being judged by the group. In terms of cognitive development the written responses stated that students felt that the module helped with the expansion and clarity of thought, the noticing of thought patterns, the understanding of ones own emotional processes, the making of theoretical links between experience, emotions and ideas, and the growth of awareness and reflection. On the negative side there was the thought that trying to incorporate so much experience into an essay format was too difficult.

Anecdotally, outside of the focus group, participants stated to me that they found the focus group itself a useful format for reflecting upon the experience of IPD and I believe also that it contributed to a sense of being heard by the institution.

Emerging Themes from Focus Group

Positive aspects of the group experience which contributed to learning:

- Explicit use of creativity and theory within the group
- In depth discussions about readings
- Direction and involvement from the facilitator

Negative aspects of the group experience which contributed to learning:

- Emergence of powerful group dynamics
- Chaotic feelings within the group
- Feelings of vulnerability
- Uncomfortable silences

The emergence of positive and negative aspects and the extent to which those contributed to learning was influenced by:

- The structure of the module
 - How directive or non-directive the facilitator was in the group
 - How clearly and explicitly was the expected level of emotional engagement
 - The balance of creativity, expression and theory
- The roles of the facilitator and of the participants
 - Was the facilitator also a tutor
 - Was the facilitator also a therapist
 - Was the facilitator also a facilitator of another group in another module with the same students
 - Were participants students or group members
- The level of support offered
 - The amount of support from tutors
 - The amount of support from university systems
 - Expectations that students will support each other

Table 1: *Emerging Themes from Focus Group*

Discussion and development of theory

Thinking about the question: Does IPD have a positive, neutral or negative effect upon the student's ability to be an effective learner? The results show that the focus group predominantly felt that the module had a negative effect, whereas the written answers indicated a more positive response. The slightly harder question of how the module influences the student's ability to be an effective learner seemed to receive a response that suggests that the module helps to clarify thinking and emotional processes with particular reference to being with others. The importance given to the relationships within the group, between students and with the tutor, fit well with the findings of Beard, Clegg and Smith (2007) and with those of Fung (2007), which highlight the importance of supportive relationships within higher education and the role of the relational and the intersubjective to the construction of meaning. This last point resonates with Lev Vygotsky's claim that the

construction of a shared language enhances learning (Hanko, 2002). This construction takes place best when there is an environment in which students feel that they have adequate support and guidance from the tutor and the academic institution. To achieve a good enough level of support and guidance in this instance, given that the students are 2nd year undergraduates on a programme that does not insist that students be in personal therapy (as many therapy based postgraduate programmes do) and that the module only runs for 20 sessions, it seems that whoever is running the groups has to be a tutor more than a facilitator (and certainly to not be a therapist); either that or the group needs to be run by someone from outside of the programme to avoid damaging the relationship between students and tutors. Being a tutor, in this context, seems to mean providing more direction and more explicit linking of theory with experience. There is maybe something also about focusing upon creativity more than expression, with creativity suggesting a focus more upon a contained definable product or process. Again this is about appropriate levels of direction and containment, and something that requires more investigation.

As a way of helping to visualise and frame the themes identified a tentative model has begun to be constructed where it might be possible to plot the position of a process group such as IPD within an imaginary two-dimensional space. In figures 1 and 2 the *Axis of Proximity* plots the extent of the facilitator’s closeness to the group in terms of leading its direction – how didactic and leading is the facilitator? The *Axis of Domain* measures a place within the domains of cognition and affect – concepts that are borrowed from education theory (Krathwohl, Bloom & Masia, 1964). Where those two meet a *Space of Intent* is formed that indicates the intended task of the group and the role of the tutor.

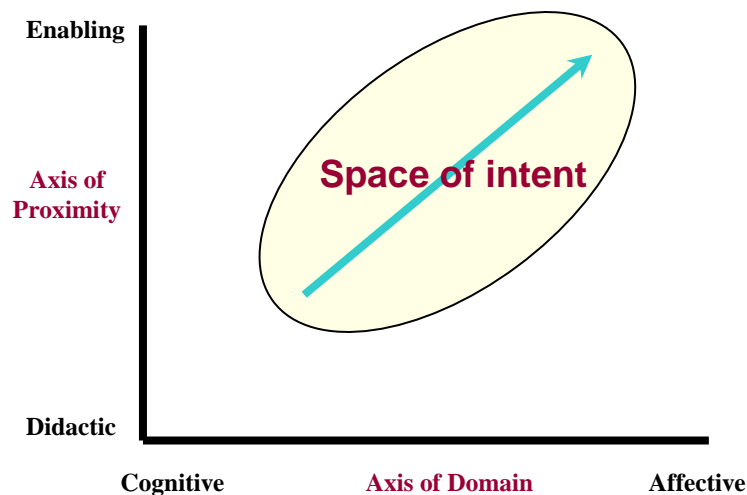


Figure 1: *Concept of 'Space of Intent'*

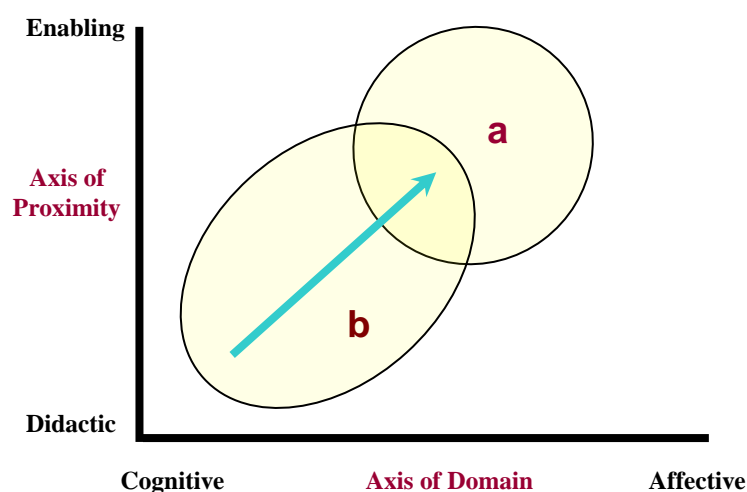


Figure 2: *Movement of 'Space of Intent' over time*

The arrow represents a general movement that might take place within a group the longer it proceeds. In this study, the groups that provided the participants of the focus group occupied a *Space of Intent* that started out at the enabling and affective area and seemed to stay there (item **a** in diagram 2); whereas the written feedback was provided by participants of groups that began towards the didactic and cognitive area, stretching out towards the enabling and affective area as the group progressed (item **b** in diagram 2).

What students seem to be indicating is that a better experience is gained if the group begins towards the didactic and cognitive, with an intention to move towards the enabling and affective. Moving too soon to the later area generates too much anxiety and runs the risk of fixing the group at that stage. It also risks damaging the relationship between the facilitator and the students, especially where the facilitator is also a tutor to those same students. Of course such diagrams can in no way capture the complexity of any group and the cognitive and affective domains are not as diametrically opposed as they are in these diagrams, but I do think the diagrams can help to visualise the relative difference between the groups and the direction groups might take.

In terms of the future development of the module, in light of the findings and my own reflective process, it is proposed to continue developing the module in such a way that the emphasis is more upon education than therapy and more upon creativity than expression. This will mean more active direction, more explicit linking of theory with experience, helping students think about their own narrative history of being in education and, most importantly, maintaining a relationship with students that provides support and guidance. These changes

also reflect the way that the programme is evolving, and whilst acknowledging that such groups do enable the development of reflective practitioners, they acknowledge that the groups also have the potential to raise anxiety too much, limit academic achievement and disrupt relationships. Figure 3 gives a visual example of the way the module will develop, reflecting a shifting emphasis away from therapy and towards education, and from expression towards creativity.

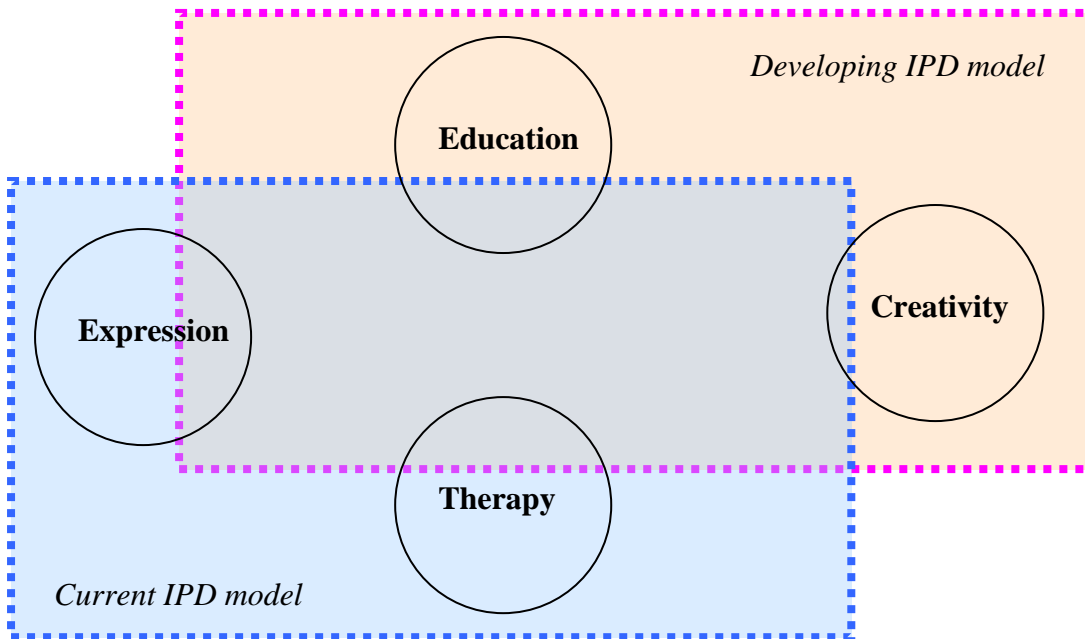


Figure 3: *Current and developing model of IPD*

In order to continue conducting the module in an ethical way that maximises the potential of the group experience to aid the development of effective and reflective students, changes have been made to the module, with this particular piece of research contributing to the depth of understanding required to make those changes meaningful. With the increased recognition of the affective component of learning and teaching within higher education, and the high value placed upon relationships within the associated research, there is a need to think carefully about the impact of dynamics and processes that any group based learning might have upon educational relationships. On a practical note, where resources allow, it is suggested that groups such as those that formed the focus of this study, be facilitated by someone who is not normally in contact with the students. Where that is not possible, the emphasis should be more upon the didactic and directive rather than the affective and the non-directive.

Conclusion

This qualitative and interpretive piece of research has revealed that undergraduate students do benefit cognitively and emotionally from process groups but only when those groups are grounded within an educational model and not a therapeutic one. What the students expressed was a need to have a clearly defined and consistently close educational relationship with their tutors who are able to provide clear guidance along with explicit theoretical links. The study supports the findings of other educational researchers who have identified the value of good working educational relationships within higher education (Beard, Clegg & Smith, 2007; Fung, 2007).

The findings of the study have proved beneficial to myself, contributing directly to my own practice as an educator and facilitator within the context of the module under investigation; I believe also that the study has contributed to the continuing development of the programme that hosts the module and to those colleagues facilitating similar groups. However, due to the limited size of the study, it is only tentatively that I suggest the findings can be applied to the wider higher education context. Any further research into this area would need to have a wider sample size and greater level of student feedback and response to the identified themes. Despite these limitations I suggest that attention to the relationship that exists between students and educators is worth consideration regardless of the context and that the findings of this study can be of some use to other educators seeking to manage the use of similar groups – particularly within those programs that involve the teaching of therapeutic practice.

In addition being the member or facilitator of any group is a complex and challenging experience but in a changing higher education system, where there is an increasing emphasis upon distance and flexibility, this research contributes to the equally valid requirement to consider and investigate the affective and the relational elements of education, where closeness rather than distance is called for.

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1. This is an extended version of a work in progress report that appeared in RESPONSE – an online journal devoted to diversity in education and produced by the University of Derby - <http://www2.derby.ac.uk/response/issue-four-part-1-2008-issues-37/40-work-in-progress/87-student-perceptions-of-a-group-process-module>
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How effective is personal tutoring at delivering personal development planning in a Computer Games Technology department at Staffordshire University

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Abstract

Within the Games Technology program area, student engagement with the optional pastoral personal tutoring system has been long standing problem. Previous study into the system had highlighted that following the initial meeting in their first year, students did not attend subsequent meetings. This paper reviews some of the systems that have been implemented to address these problems. It asks whether incorporating Personal Development Planning (PDP) can breathe new life into a system, which currently students feel disengaged with? Through a review of the current literature, and questionnaires to both staff and students, the appeal of the new PDP provision within the current personal tutoring system can be ascertained; The results show that the current provision is an improvement over the previous system, but that both staff and students would welcome further integration of PDP into personal tutoring. The evidence shows that whilst students at lower levels may not totally appreciate PDP at that time, as they continue in academia the need to be an employable graduate motivates the student to engage with PDP. This study recommends that when a structured PDP programme has been compiled it should be incorporated into personal tutoring as a matter of course.

Introduction

Reflection is a key part of the learning process and helps develop understanding (Moon, 2001) (Kolb, 1984) (Schon, 1983). More specifically Mayes, citing Entwistle & Walker (2002), argues that it helps to promote deep learning (Mayes, 2005). The HE education sector uses a variety of methods to encourage reflection by students. Academic reflection may come in the forms of critical evaluations, peer reviews, self-assessment documents, or development diaries (Cottrell, 2003). However, this reflection is not always academic, and the personal tutoring process provides a familiar environment where students can reflect on external factors, which may affect their studies (Thomas & Hixenbaugh, 2006) (Wheeler & Birtle, 1993). However, if students are not engaging in a personal tutoring or a Personal Development system, is there an opportunity being missed to further help students reflect on their performance? This paper attempts to determine if more can be done to help students engage with an optional personal tutoring system. Further, it seeks to determine whether the integration of PDP into personal tutoring is appealing to games technology students.

Literature Review

Personal tutoring has been part of the student higher education experience for many years, with many institutions utilising the traditional Oxbridge model of personal tutoring (Wheeler & Birtle, 1993). This model is a pastoral system whereby the academics are assigned personal tutees, for whom they are responsible for. Owen gives examples of 2 other Personal Tutoring systems; The first of these is the *Curriculum Model*, whereby personal tutoring is embedded into academic modules, or as a standalone module. Successful completion of the personal tutoring module is rewarded with marks towards a summative grade. The second is the *Professional Model*, which is the referral of almost all personal tutees to the relevant professional service depending on the problem at hand, i.e. finance, counsellors, disability services etc (Owen, 2002).

The term PDP is a relatively new, finding its way to prominence around 2001 (Jackson, 2001) with QAA requiring all universities to offer some PDP provision by 2005/06 (Clegg & Bufton, 2008). It is therefore unsurprising to find that around this time there was a concerted effort by HE institutions to have a policy in place to support such provision. The Staffordshire University policy for example "was written in 2000/2001 and audited in 2004" (Staffordshire University, 2006). Given the swift pace of technological change, the regular updating of academic course materials in the program area to meet current employability requirements, and the implementation of blended learning strategies for academic awards, one might question as whether the improvement of the personal tutoring system, or the PDP provision has been equally well considered?

Rationale

The Games Technology program area operates a personal tutoring system underpinned by the personal tutoring policy of the institution. The policy itself promotes a system based on a combination of the pastoral model and professional model of personal tutoring as stated by Thomas, citing Earwalker (1992) (Earwalker, 1992) (Thomas, 2006).

Previous Experience in this area had highlighted there were problems with the current personal tutoring provision in the program area. Student uptake on scheduled meetings was generally poor, and staff and student attitudes towards the system were disappointing. Therefore an initial piece of research was undertaken to identify problem areas.

The pastoral system used many of the generic documents provided by the university (Staffordshire University, 2004). For this reason many of the questions and discussions within the initial meetings were very generic and seemingly detached from the student's own subject area (Staffordshire University, 2004).

The previous research in this area was carried out between January and May 2012. The study used questionnaires to critically review current practices and a review of current literature to give context to the views of the students.

The results suggested that a high percentage of students in their first year knew who their personal tutor was, and attended their first initial meeting. However, in the second semester only 1 of 16 first year students surveyed stated that they attended their personal tutor meeting. In contrast, less than 50% of Students in levels 5 (2nd year) and level 6 (3rd year) knew who their personal tutor was, with the same percentage attending their first meeting¹. Furthermore, all level 5 students surveyed stated they did not attend their second semester meeting. The evidence showed some students suggested a breakdown in communication as a reason for this lack of attendance. It was recommended that more robust communication logging be implemented in the future.

One of the most startling results from the research was that only 26% of students questioned found the personal tutor meetings helpful, with 41% of students finding the support documents (suggested by the university) equally helpful. Additionally, only 50% of students stated they would seek pastoral support from their personal tutor, preferring to speak to either the module, or award leaders, in the case of academic problems. Given, that the personal tutor should be a stable point of contact for a student, (Wheeler & Birtle, 1993), and they should be there to guide the students attitudes towards learning, and overcoming to difficulties (Thomas, 2002), the current provision clearly wasn't meeting these requirements.

¹ This also highlighted that some level 6 students didn't realise that their project supervisor was their personal tutor

The study concluded that the overall apathy with personal tutoring came down to the lack of relevance of the personal tutoring sessions, and communications between staff and students being poor. It was determined that the personal tutoring provision of the program area had to change, in order to be seen as more relevant and desirable to the student population. Three areas were recommended for improvement

1. Student Engagement and Communication
2. Meeting Content and Relevance
3. Staff and University commitment to Personal Tutoring

Subsequently a new provision, was designed to be more engaging for students, and attempted to address more than just general a student's pastoral concerns.

One of the improvements implemented involved the integration of Personal Development Planning (PDP) into the current pastoral provision. This was done through several strategies.

At the initial group meeting, the personal tutor would present a new PowerPoint presentation. This presentation asked the students to think about more than just 'if they'd settled into their accommodation?', or knew 'how to get their timetable?'. It asked them to consider their intended career paths, what they might need to do to get there, and how the personal tutor could help them.

The second strategy involved the personal tutor reviewing attendance registers and contacting any students who seemed to be struggling with attendance. This meets with Owen's recommendations that personal tutoring should track students through their time at university (Owen, 2002). It was hoped that this would pick up struggling students.

Finally support documents were provided to students for their second semester meeting. This would involve a student review document, which asked the student to reflect on areas they did well, and areas which needed improvement. It also asked them to consider how they could improve on these areas. When completed this document would be emailed to the tutor by the student before the meeting. At the meeting the tutor would work with the student to develop an action plan to go help the student move forward. It was intended that this structured approach to the meeting would be considered useful by the students.

Methodology

The hypothesis of this study is that students would show a greater motivation to engage with the personal tutoring provision if there was an even greater emphasis on personal development and progress planning.

This paper will attempt to address two main research questions:

1. Does the current personal tutoring provision address the Personal Development Planning (PDP) needs of the students?
2. What strategies can be put in place to strengthen the link?

This research will form the second stage of ongoing action research cycle following McNiff's cyclical method:

- identify an area of practice to be investigated;
- imagine a solution;
- implement the solution;
- evaluate the solution;
- change practice in light of the evaluation (McNiff, 2002)

McNiff's cyclical method aligns with Elliott's argument that action research should improve practice (Elliott, 1991). At this point in the ongoing research, the study will try to gauge the views of the staff and students on whether the changes that have been implemented, on the back of the previous research, have been well received. Further, it will try to establish if further integration of PDP into the provision would be welcomed. Ultimately the goal of this stage of the program of research is to improve the personal tutoring and PDP provision currently in place in the department.

This stage of research will take the form of a small scale case study of student and staff perceptions and experiences in the Games Technology program area. This particular case study falls into Stenhouse's definition of an *evaluative case study*, whereby a single case, or collection cases, studied in depth can have an effect on decision makers, who determine policy (Bassey, 1999), citing Stenhouse (1985). It is hoped that the ongoing action research will help managers to consider how PDP and personal tutoring could be important factors in the student experience.

It is not in the nature of this paper to debate the value of both qualitative and quantitative research methods. Quantitative quantifiable data, trends, patterns and demographics, needs to be balanced against the need for an understanding over what the results actually mean. The students are individuals and their experiences, judgements, and answers may not always be able to be defined by a set of definitive values or statistics.

Therefore the primary research will take the form of questionnaires consisting of both quantitative and qualitative questions.

As the Qualitative data, by its very nature, is open to interpretation and subjective opinion (Cohen, et al., 2007). The open answers need to be analysed, the Grounded Theory method will be used as Cohen et al argue that it is more inductive, and that

theories emerge from the data, rather than before the data is analysed (Cohen, et al., 2007). This means that rather than trying to categorize the qualitative answers, the answers will be categorized by their themes.

It is important to consider who the respondents of the questionnaire should be. Personal tutoring and personal development planning clearly affects the student population. However it also affects the academics, and professionals, who deliver the service. For this reason there will be 2 questionnaires; one that is answered by students, and one by staff members in the program area.

The first questionnaire was distributed to the 496 students on Games Technology awards², and the second questionnaire was distributed to the 11 staff members in the program area. The method of distribution for these questionnaires were differed for each group of recipients: The staff questionnaire was attached to an email to sent to all staff members. The student questionnaire was distributed via a link posted on the social media site Facebook, and in an email to all students in the program area. A reminder email, and a notification post, was sent out 2 weeks after the initial contact time, ensuring the highest number of replies.

The questionnaires were designed to answer the two main research questions. "What effect does Personal Tutoring have on PDP", and "What strategies can be put in place to strengthen the link". Each questionnaire would fundamentally answer these same questions, but from the two different points of view. It was anticipated that a correlation could be found between the 2 sets of data and conclusions drawn on the results

There were 103 responses to the student questionnaire recorded by Qualtrics, which is a return rate of approximately 20.8%. However, the construction of the questionnaire was such that some questions could be skipped and the survey completed without all questions being answered. Unfortunately, this means that some questions do not have a total responses value equal to the 103 population value. The distribution of responses by study level is shown in fig1.

² This figure was taken from the *Core Skills for Games Awards* Blackboard module. All students on Games Technology awards are registered on this module.






#	Answer		Response	%
1	Level 3 - Extended Award		4	4%
2	Level 4 - Traditio nally the 1st year		3	37%
3	Level 5 - Traditio nally the 2ndyea r		3	35%
4	Level 6 - Traditio nally the 3rd year		1	18%
5	Placement Year		0	0%
6	Level 7 - Masters /MEng		5	5%
	Total		9	100%

Figure 1: Distribution of the population by study level

The response rate for the staff questionnaire was higher at 82.6% or 9 out of 11 staff members. This was to be expected due to the nature of the enquiry, the professionalism of the respondents and low distribution population.

The responses for the quantitative questions were analysed through Qualtrics. Initially, cross tabulation was used to organise the data. "Cross Tabulation is presentational device whereby one variable can be presented in relation to another" pg508, (Cohen, et al., 2007). Thus it was possible to correlate whether students had different thoughts on Personal tutoring and PDP depending on their level of study.

Results and Discussion

The quantitative data shows that of all the level 4 & 5 students surveyed, only 50% attended their personal tutor meeting. Cross Tabulation of the data shows that approximately 61% of the level 4 students attended whilst only 40% of the level 5 students attended. This is shown in figure 2. In line with personal tutoring policy of

the university, the Level 6 students personal tutor is their final year project supervisor, as such these students were directed to a different set of questions.

		Did you attend your personal tutor meeting?		Total
		Yes	No	
At what level are you currently studying?	Level 3 - Extended Award	1 25.00%	3 75.00%	4 100.00%
	Level 4 - Traditionally the 1st year	20 60.61%	13 39.39%	33 100.00%
	Level 5 - Traditionally the 2nd year	12 41.38%	17 58.62%	29 100.00%
	Level 6 - Traditionally the 3rd year	0 0.00%	0 0.00%	0 100.00%
	Placement Year	0 0.00%	0 0.00%	0 100.00%
	Level 7 - Masters/MEng	0 0.00%	0 0.00%	0 100.00%
Total		33 50.00%	33 50.00%	66 100.00%

Figure 2: Level of Study vs Attendance of Personal Tutor meeting

Those who failed to attend the meeting were asked to give a reason for not attending. Three main themes were identified: The largest response, 72%, responded that they either where unaware of the meeting, or were not contacted by staff members. The second main theme identified, at 17%, was apathy; these students made a conscious decision to not to attend the meeting as they felt it would not benefit them to do so. The final theme, with only two of 29 students, was student culpability. These students forgot to attend a pre-arranged meeting.

The first, and largest category, clearly states that communication between staff and students is still a problem, and needs to be addressed; despite being part of the previous action plan. However, it is also possible that students may have forgotten, or deleted any previous correspondents from staff. In either case, action is needed to ensure that communication between staff and students in clear, direct and recorded. These results do not necessarily impact on any analysis carried out on data obtained regarding the content of the personal tutor meetings. However, what they do tell us, is that communication is a significant problem, and should be integral part of the ongoing recommendations for the future.

Those students who did attend their personal tutoring meeting had mixed feelings of how useful it was. Only 37% of students felt it to be useful, or very useful. Whilst, 42% had no opinion, with 13% feeling the meeting was useless to them. This was a significant improvement over the previous research, which suggested that only 26% of students found the meetings useful, with another 26% finding them useless. It could be argued that the inclusion of the additional PDP information into the initial meeting was beneficial to the student experience. At the very least it was not detrimental.

The next question discussed the attendance of the 'Feedback Week' (a one-to-one feedback session with the personal tutor at the start of the following semester, which follows the release of summative results; one of the PDP elements implemented as part of the improvements), 74% of students felt they would be likely, or very likely to attend. Carless, citing Hounsell (2003), argues that feedback is an important part of the learning and development process. Knowing their current level of competency and where there are opportunities for development helps individuals to be more effective learners (Carless, 2006). In this regard it clearly is in the best interests of the students to attend, and nearly three out of four students agree. However, it begs the question, why might students not want to attend to gain further feedback? It could be argued that due to their previous poor experience with the personal tutoring system in their last meeting, they feel that it would not benefit them, and they would rather talk directly to the academic responsible for the assessment.

Attitudes towards the current personal tutoring provision can be seen from further cross tabulations. 43% of level 4 students agreed that personal tutor meetings should be compulsory. Conversely only 15% of level 5 students felt the same way. This is shown in fig 3.

		Students attendance at Personal Tutor meetings should be compulsory? Whereby failure to attend regul...					Total
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
At what level are you currently studying?	Level 3 - Extended Award	0 0.00%	1 25.00%	2 50.00%	0 0.00%	1 25.00%	4 100.00%
	Level 4 - Traditionally the 1st year	1 3.57%	12 42.86%	3 10.71%	12 42.86%	0 0.00%	28 100.00%
	Level 5 - Traditionally the 2nd year	6 23.08%	9 34.62%	7 26.92%	4 15.38%	0 0.00%	26 100.00%
	Level 6 - Traditionally the 3rd year	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 100.00%
	Placement Year	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 100.00%
	Level 7 - Masters/MEng	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 100.00%
	Total	7 12.07%	22 37.93%	12 20.69%	16 27.59%	1 1.72%	58 100.00%

Figure 3: A breakdown of thoughts on compulsory personal tutoring attendance

Is it possible that the level 5 students feel this way, because of a previous poor experience from their first year. It should be considered that it was this group students of whom only 26% found the meetings useful last year. Therefore it is unsurprising that they do not feel it should be compulsory.

When this is compared to the results of the staff questionnaire there seems to be a mixed response. 3 out of 7 staff disagreed, or strongly disagreed, that personal tutoring should have compulsory attendance. Equally, another 3 agreed they should have compulsory attendance. Wootton states that individual's interpretation of the necessary personal tutoring provision differs so widely between staff members that

consistency is sometimes compromised (Wootton, 2006). It could be argued the reason for this contentious issue is the content of the classes. If both staff and students feel they are wasting their time because the content of the sessions are poor, they may feel that making it compulsory is unnecessary.

One aspect of the research that did herald an improvement was the students views on approaching their personal tutor with a problem. 74% of level 4 and 5 students responded that they would approach their personal tutor if they had problems. This is actually an improvement over results from the previous study, where only 50% of students would follow the same course of action.

When the data from the level 6 students is reviewed, there is a evidence of a change in attitudes towards feedback and personal tutoring. 14 out of 15 students said they met their project supervisor at least 2-3 times a month, with 64% meeting their supervisor once a week. All of the students said they met their project supervisor in individual meetings, with 95% of students stating that these meetings were effective, or very effective, at meeting their concerns, questions, and progress of their project. This observation concurs with findings by Clegg and Bufton which state that students are much more engaged with their own personal development as they reach the end of the course (Clegg & Bufton, 2008).

The students were asked what they understand about Personal development planning (PDP); the intention that this would expose any prior knowledge, or experience, of PDP from their previous educational institutions. 25 from the 61 respondents had no idea of what is meant by PDP. Many of the other students suggested an answer around the theme of "planning some form of development". However, it should be noted that these replies lacked detail or were written such that they seemed to represent the student making a guess. There were few replies which were more informed. These students considered PDP to consist of a dialog between staff and students, a reflection of work, reviewing past targets and setting new goals. Bullock and Jamieson assert that PDPs, and action plans have evolved from a variety of activities introduced to schools and colleges since the late 1980s (Bullock & Jamieson, 1998), with Christopher Day noting that this forms part of the student's Record of Achievement (Day, 1994). it is quite surprising that some students seem unaware of PDP in any context, given that Day, Bullock and Jamieson assert that students will have had some prior experience at school or college.

Despite some questions regarding their understanding of the term PDP, 92% of students agreed, or strongly agreed, that personal tutoring should help their personal development. Furthermore, 59% of students agreed, or strongly agreed, that they would be willing to engage in managed PDP programme. This drop sharp drop in percentage agreement could be due to this lack of understanding of what a managed PDP program

However, if the results are broken down by level, as shown in figure 4, it can be seen that there is higher proportion of the level 4 and level 5 students seem to disagree with this, when compared to the level 6 students.

		I would be willing to engage with a managed PDP Programme? In this instance managed would refer to sc...					Total
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	
At what level are you currently study?	Level 3 - Extended Award	0 0.00%	0 0.00%	1 50.00%	1 50.00%	0 0.00%	2 100.00%
	Level 4 - Traditionally the 1st year	0 0.00%	3 15.00%	6 30.00%	10 50.00%	1 5.00%	20 100.00%
	Level 5 - Traditionally the 2nd year	1 5.00%	2 10.00%	7 35.00%	10 50.00%	0 0.00%	20 100.00%
	Level 6 - Traditionally the 3rd year	0 0.00%	0 0.00%	1 14.29%	4 57.14%	2 28.57%	7 100.00%
	Placement Year	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 100.00%
	Level 7 - Masters/MEng	0 0.00%	0 0.00%	0 0.00%	1 50.00%	1 50.00%	2 100.00%
	Total	1 1.96%	5 9.80%	15 29.41%	26 50.98%	4 7.84%	51 100.00%

Figure 4: Breakdown of students willing to engage with a PDP program by level

15% of each level, equivalent to approximately 12% of the respondents, seem to be unwilling to engage with a managed programme. Conversely, no level 6 students disagreed, and 86% at least agreeing that they would be willing to take part.

There appears to be a trend for personal development enthusiasm at level 6 is also evident in several other responses.

Question 17 asks whether students to consider that "completing a PDP portfolio should be part of the course?" 71%, or 5 out of 7, level 6 students, agreed or strongly agreed. whereas only 45% of level 5 students, and 32% of level 4 students agreed or strongly agreed. Cottrell claims that successful employees are expected to be able to manage their own performance and show a commitment to continuing their professional development (Cottrell, 2003). This appears to be understood by the higher level students, who are more academically experienced.

It appears that level 6 students would again be considering employability when answering question 20. 100% of level 6 students agreed, or strongly agreed, that engaging with a PDP programme would make them more employable. whereas the at level 5, and level 4, students only 50% felt this way. This correlation is reinforced when the timeliness of meetings is questioned. 6 out of 7 level 6 students would prefer a meeting at least once a month, whereas this falls to only 35% of level 4 and level 5 students.

Parallels can be drawn with the students quoted by Clegg and Bufton. Here, students state that they were aware of how they have had to manage their learning, and feel that a PDP Portfolio would have benefited them. This also correlates with the staff questionnaire where 5 out of 7 staff felt that students should complete a PDP portfolio. The disinterest towards personal tutoring and PDP at early levels seems to

further correlate with accounts given Clegg and Bufton's paper, whereby students recounted similar experiences. "I didn't really personally apply everything that I said I was going to apply" (Clegg & Bufton, 2008). It could be argued that at the lower levels there is a need to convey the importance of why a PDP strategy is appropriate; as well the completion of PDP tasks themselves.

It seems clear that as students progress through their time at university they not only build an understanding of their subject area, through lectures, tutorials, assessments and feedback, they also gain an understanding of what it takes to be employed in that area. Evidence for this understanding can be seen when the students were questioned on their views of whether they should be required to develop a website portfolio. Whilst all students were in favour of this, the higher level students seemed the most convinced, as the number of students who answered neither agree or disagree drops from 20% (level 4), to 10% (level 5) to 0% at level 6. This also correlates with staff questionnaire where 6 out of 7 staff felt that students should have a website portfolio by the time they finish the course. There is a plenty of evidence that a website portfolio is almost certainly necessary for individuals applying for games industry jobs (Crowe, 2006) (Skillset, 2012) (GameCore3d, 2011).

Evaluation and Conclusions

The results of the primary and secondary research have identified several aspects of the personal tutoring, and PDP provision, which need addressing.

The changes to the personal tutoring system since the initial study have resulted in students' perception of the provision being slightly more agreeable. Clearly there are still some problems. However, it would be unjustified to describe the current system as unfit for purpose. Whilst students and staff clearly have some issues with the current system, it does offer the students somewhere where they feel they can discuss any problems they're having. However, it is also evident following the first year, and to some extent the first meeting, students still feel the meetings are unnecessary and irrelevant to their academic lives. It is only when the students are undertaking their final year does the student seem to value the contact with their personal tutor or project supervisor.

Both staff and students felt that integrating PDP into the personal tutoring sessions would benefit the students. The results show that most students feel that meetings should take place at least once per semester, possibly increasing in regularity as they progresses through their academic career. This would prepare them for the regularity of the meetings with their project supervisor in level 6, which they evidently already approve of. It would also help solve some of the concerns that staff had. Whereby 5 out of 6 staff members felt that students should engage with a PDP program (Q.11), have a completed PDP portfolio by the end of their course (Q.19). yet the current system doesn't address PDP (Q.12).

The concerns from staff also seem to be the implementation of a new system. Strivens, remarks how this transition has been generally positively received at Liverpool University (Strivens, 2006). However, Strivens also describes out that this was not without its problems, and clear explanation and encouragement was needed for both staff and students to adopt these changes. This is also echoed by Stevenson, who contends that taking a proactive approach and managing workload. e.g. delivering information in groups where necessary, helps gain the support of the tutors (Stevenson, 2006).

Monks et al assert that PDP will likely serve most successful when it is underpinned by a model of learning and integration (Monks, et al., 2006). There is considerable evidence to support the integration of PDP elements into subject teaching. Jackson, Clegg & Bufton, and Monks et al, and Noble all advocate the advantages of embedding content (Jackson, 2001) (Clegg & Bufton, 2008) (Monks, et al., 2006). Noble states 3 advantages.

- It gives employability skills the same status as subject knowledge
- It identifies the importance of skills to develop academic success
- It obliges all lecturers to develop a subject context for employability skills (Noble, 2001)

This gives strong evidence to the argument that PDP is important enough to be included into subject content. However, Jackson also defends the separation of PDP from curriculum claiming that students often find the work a chore, time consuming and undervalued (Jackson, 2001).

It also can put pressure on the curriculum time, and even give the impression that the content is just 'bolted-on' to the end of the module (Noble, 2001). Logically the solution to this seems to be a combined approach of both embedding some PDP content into modules where appropriate, whilst supporting the main bulk of PDP independent of modules in the optional personal tutoring sessions.

The responses from the questionnaires can help guide any propose changes. Staff have themselves identified student self-reflection documents, a regularly updated online portfolio, and agreed action plans as useful methods of PDP delivery (Q.#15),. The tutors also seemed to favour a one-to-one appraisal system (Q.#16 & Q.#17), with direct face-to-face feedback and direct email contact as preferred feedback mechanisms (Q.#18).

What is clear is that both students and staff understand the importance of PDP and how integral it is to the development of students. In an industry, which by its very nature is ever changing and evolving students need to be able to continually develop their own skills, reflect on their work, and plan to develop their skills throughout their career. The PDP provision provided by the program area should help them do this.

Recommendations

This study is part of a larger reflection-on-action (Moon, 1999), and the continuation of an action research cycle (Bassey, 1990) which will look to continually improve the personal tutoring and PDP provision in the program area. Therefore recommendations have been drawn up as part of an action plan to be presented to the program area manager, and the rest of the lecturing team.

1. Communication

Despite being a recommendation of the initial study this recommendation is still in need of work. The overwhelming percentage of students who did not attend their personal tutoring sessions cited communication between staff and students as the problem. This recommendation is that a greater emphasis be placed on the importance of attending your personal tutor meetings at the induction talks (for the first year students), as well as welcome back talks (for returning students). It is also recommended that there be a process in place to ensure students cannot miss any communication from staff members.

2. PDP integration into Personal Tutoring. Including: PDP documents Integration action plan, implementation documents, and team briefing documents. Given the results and conclusions from the primary research, the Personal tutoring provision needs to be improved. The integration of PDP into personal tutoring should ensure that it is in their best interest to engage with the programme. The staff have shown they feel the current system isn't working, the integration of PDP should motivate the staff to associate with the programme in a proactive manner. This could be achieved through online collaboration between staff and student.

The majority of staff respondents highlighted that having guidelines and supporting material would help them better deliver and PDP integration (Q. #21 & Q.#22). Two respondents even highlighted supporting mechanisms they felt beneficial. The recommendation is for a structured PDP framework to be distributed to the students and staff. This system is not intended to not add extra work or hours to the tutors workload, but to ensure that the hours which are already put into the system are used more appropriately.

To help achieve this, the following is recommended

1st year students are given a traditional lecture regarding personal tutoring and PDP. This would avoid some of the confusion, miscommunication, or differentiation in information that may come from different staff members. They would be introduced to the PDP portfolio and their responsibility to take an active role in the program. The tutoring staff would have a briefing session prior to system being implemented to ensure every member of staff understands their roles and responsibilities of the new provision. Students are emailed reminders to complete sections of the portfolio for a deadline set sometime before their meetings with their personal tutor. This could be set at 1 meeting per semester in the first year, and 2 meetings per semester in the 2nd year/level 5.

3. An online PDP Portfolio template is set up distributed to students through the virtual learning environment Blackboard. This could be achieved through a blog type system working with a reflective model for example Gibbs' reflective cycle (Gibbs, 1988). This might be useful as the students are already used to working in a blended learning environment as so they would readily have access to their own PDP portfolio.
The students would log into the system and complete the relevant sections for each semesters meeting. At the meeting the tutor would discuss the progress for the student, as well as setting targets for the next meeting. Gidman argues that proactive methods are successful in the health sector, and promotes an reflective learner (Gidman, et al., 2000).
4. The communication between staff and student needs to be regularly reviewed and checks and balances should be set up to ensure the communication standards are being met. There should not be any doubt as to whether communication between tutor and student has been missed. This should avoid a repeat of the students comments such as "I didn't get an email", or "I didn't realise there was a meeting".

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Lonely Heart Columns: A Novel and Entertaining Way of Teaching Students Abstract Writing Skills

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Abstract

ABSTRACT: Important skill, fun approach, uses lonely heart columns, students enjoy, gain transferable skills.

Abstract writing is a key skill for science graduates; they are a common feature in many of the standard forms of scientific dissemination such as scientific research articles. In this paper we present a novel and entertaining approach for teaching abstract writing using adverts from lonely heart columns (LHC). Student constructed full profiles of the authors of LHC and constructed LHC profiles of celebrities to illustrate the key skills in abstract construction. There was no significant difference between the grades achieved by student taught using LHC and a more traditional approach, suggesting there were no negative impacts from this delivery method. Student in LHC tutorial overwhelmingly enjoy the tutorial, 95% responded the question 'how would you rate the enjoyment of this tutorial' as 'much' or 'very much'. In addition to abstract writing two thirds of students in LHC tutorial believed they improved their ability to speak in front of others and their creative thinking skills. The LHC tutorial is a novel approach to teaching and learning that is both enjoyable and effective.

Keywords: Undergraduate, Abstract, Pedagogic, Writing Skills

Introduction

The writing of abstracts, a self-contained short piece of text that describes a larger piece of work, is an ancient tradition. It is believed that the Ancient Greeks were the first to produce abstracts for histories and works of non-fiction (Witty, 1973). Abstracts are now a standard feature in scientific literature and are found in scientific research articles and communications, theses and dissertations, and conference proceedings.

Abstracts are often short in length (typically 200-500 words) but are a fundamentally important part of all scientific communications. A reader will often read the abstract of an article as a basis of making an informed decision on whether they should read the full text of the document (Trawinski, 1989). Despite the importance of abstracts in scientific literature they are often poorly constructed and fail to convey the most pertinent information. In an editorial for the *Journal Library and Information Science Research* the editors comment on the number of abstracts they receive for review which do not meet standards based on either style (length, incorrect tense, poor readability) or content (lack key findings, repeat ideas, highlight structure rather than content). The authors continue to say that an abstract author needs to adopt the art of persuasion to convince a reader of the worth of reading the full article (Hernon & Schwartz, 2010).

A study by Hartley (1994) looked at the clarity of psychology journal abstracts. The author selected articles from a current issue of a subject-specific journal and presented students and academics with four different versions of the abstract. Version one was the original format, version two matched one but the type-size was increased, version three matched version two but subheadings were introduced into the abstract and version four was rewritten by the author to improve its clarity. The study showed that when asked to judge the abstracts for clarity, undergraduate students showed a significantly greater preference for each successive design change. The work also showed that revised abstracts were significantly more readable than the original (using the Flesch Readability score). This study shows that even published articles in well respected journals contain abstracts that would benefit from improved clarity.

Scholarly articles and textbooks exist on the writing of abstracts both in general terms (Cargill and O'Connor 2009; Cole & Koziol-McLain, 1997; Juhl & Norman, 1989; Swailes *et al.*, 2009; Trawinski, 1989) and for specific purposes, such as an application to submit at a conference (Beyea & Nicoll, 1998; Coad & Devitt, 2006). Many of the guides recommend the same basic principles such as careful proof reading of the abstract and taking note of the journal's specific instructions for authors. In guides, abstracts are often described as being either a 'traditional' standard single paragraph, or 'structured' paragraphs with short subheadings such as 'Method' and 'Results' (Taylor, 2010). The convention from guides (irrespective of abstract type) is that abstracts should contain the following five elements (adapted from Cargill and O'Connor, 2009).

- Background Information
- The aim and scope of the study
- Information about the methods employed
- The most important results of the study
- Statements of conclusion or recommendation.

Some guides offer slightly different approaches such as a problem structured abstracts. Trawinski (1989) proposes a novel method in which abstracts do not have the form of a continuous text but have a modular structure consisting of 5 separate parts: document problem, problem solution, testing method, related problems (the information layer), and content elements (the formal structured layer). The content elements are presented using a series of three letter codes e.g. PRF *proof of thermos*. The aim of these abstracts is to generate transparent and short abstracts (the information layer parts) that are easily searchable by a scientist using the formal structured layer.

Abstract writing is traditionally taught in an academic setting using tutorials. Novel approaches to teaching abstracts have been discussed by other authors; Cox et al (2003) describe a writing initiative used to teach first-year business students how to abstract what they have read. The authors developed a course that includes a pre-test and post-test article exercise structured around a series of three smaller abstract writing exercises and taught sessions. The authors found that students significantly improved their ability to write abstracts and represent the views of the author accurately over the initiative. However the authors noticed a decline in the student's ability to write using their own words across the initiative and no improvement in spelling and grammar. In another exercise Habeshaw and Steede (1987) describe an abstract writing tutorial in which students (in groups) are provided with a selection of articles containing abstracts and asked to criticise them and suggest improvements. Once students understand of the composition of abstracts they are presented with a research paper minus its abstract and asked to compose one.

In this study we describe a novel and entertaining tutorial-based approach for teaching the basic principles of writing scientific abstracts as described by Cargill & O'Connor (2009). The approach uses short adverts from lonely heart columns (LHC), written by people seeking companionship or romance, as a vehicle for a wider discussion on what makes a good abstract. It is the aim of the authors to enthuse and engage students using a colourful analogy from the real world. Analogy is a powerful tool for explaining complicated concepts and has been shown to good effect in medical education for example Nayak and Kramer (2007) describe a way of teaching the structure of the midgut using rope and paper.

It is also the view of the authors that the LHC tutorial will aid students in the development of key transferable skills such as communication alongside abstract writing. Clarkeburn *et al* (2000) used role-play in large classes to teach students important conservation concepts, they found that students improved in their confidence in key transferable skills such as group work and speaking in public.

Method

As part of a core second year (level five) undergraduate module, students registered on Biological Sciences programmes were taught the principles of abstract writing and undertook a summative abstract writing assignment. A component of this module is a tutorial (linked to a formative assignment) on abstract writing. Twenty-four students in two separate tutorial groups (in place of a traditional tutorial) were part of a lonely hearts column tutorial described below. The two tutors had previously agreed the structure of the LHC tutorial to maintain parity between the two sessions. At end of the tutorial students were asked to fill out an optional ethically approved questionnaire about the tutorial. Student grades for both the formative and summative assignment were anonymously recorded from both LHC tutorial groups and another traditional tutorial from the same cohort. The University alphanumeric grading system was used for marking both the formative and summative assignments, the scale ranges from A+ to D- (pass) and FM, F and Z (fail). For simplicity in the analysis grade changes were viewed numerically e.g. if a student scored C in the formative assignment and B- in the summative assignment they increased their grade by 2 steps on the grade scale (+2).

Formative Assignment – Two weeks prior to the tutorial session students received a formal taught session on abstract writing and were handed a discipline specific research article which has had the abstract removed. Students were required to read the article and write their own abstract. This formative piece of work was handed into the tutorial tutor one week prior to the tutorial session.

Traditional Tutorial

Exercise One - Students had their formative work returned to them and were led through a discussion of common mistakes by their tutor. Students were then handed the real abstract from the paper and asked to reflect on their own work as compared to the original. After time for reflection the tutor lead a brief discussion on the real abstract.

Exercise Two – Students were handed another subject-specific research paper which had its abstract removed. Students in small groups were encouraged to read the paper and construct a group abstract. After time for the exercise the groups read out their abstracts, the real abstract was then provided by the tutor who led a discussion of the student constructions compared to the real abstract.

Lonely Hearts Tutorial

Exercise One - Students were handed a photocopy of a LHC from a newspaper (see Figure 1). In pairs the students were instructed to invent a short biography for self-selected adverts. After time for the exercise, students were encouraged to read out loud the advert they selected then the biography they constructed. The tutor then made the link that a LHC entry is an abstract of a person's personality and interests and the way they are constructed can lead to different interpretations.

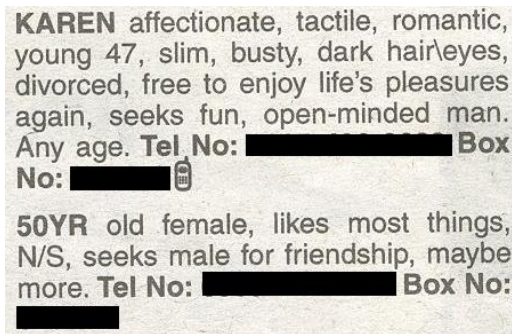


Figure 1: A example of two lonely heart column entries from among those used in the tutorial exercise.

Exercise Two - Students were handed a collection of 'celebrity' profiles constructed from an online encyclopaedia (see Table 1). Students were divided into two teams and instructed to construct abstracts of the celebrities based on the information provided. The abstract were no more than three words and contain no proper nouns. After ten minutes for the exercise, students read out their profiles and the opposing group had to guess the name of the celebrity. This exercise illustrates the difficulty of writing abstracts and conveying lots of information in a concise way.

<p>a) JLS Hulk Hogan Jane Fonda Audrey Hepburn Tiger Woods JK Rowling Po (Tellytubby) Ne-Yo Harrison Ford Willy Wonka Elijah Wood Sir Elton John HRH Elizabeth</p>	<p>b) <i>"Willy Wonka is a fictional character in the 1964 Roald Dahl novel Charlie and the Chocolate Factory and the film adaptations that followed. The book and the 1971 film adaption both vividly depict an eccentric Wonka — a feature arising from his creative genius. He annoys the other characters with his antics, though Charlie sees Wonka's behavior as a positive trait. In the 2005 film adaption, Willy Wonka's eccentricity is viewed more as a sympathetic character flaw. These aspects of Wonka's personality are explained in Burton's version by a strained, conflicted relationship with his father, the dentist Wilbur Wonka"</i></p>
<p>II Albert Einstein Sophia Loren John Terry Lady Gaga</p>	

Gordon Brown Ricky Gervais Michael Jackson	c) "Golden, Ticket, Chocolate" "Sweets, Chocolate, Eccentric"
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Table 1: Exercise two in the LHC abstract tutorial a) list of celebrity profiles selected for the exercise b) an example celebrity profile (Wikipedia, 2011) c) two example abstracts designed by student groups to represent the profile shown in b).

Exercise Three - Students were handed the real abstract from the research paper used in the formative exercise. The tutor then led a discussion of the abstract's construction, its merits, and its flaws, highlighting common mistakes made by students in the formative work. The session was concluded by a discussion on the common elements of abstracts (adapted from Cargill and O'Connor, 2009) and the return of the formative assignment to the students with personal written feedback and an indicative grade.

Summative Assignment - One week after the tutorial, students wrote an abstract for a different discipline-specific article, from which the abstract was removed, under examination conditions. The article was unseen until the day of the exercise. Students had a maximum of two hours to complete the exercise.

Results

The students who attended the LHC tutorial improved their abstract writing skills as seen by the grade change between the formative and summative assignment (Figure 2). The mean grade for students in the LHC tutorial, B grade (n=24) is comparable to the class average for the exercise (B- grade). A comparison between the LHC tutorial (mean grade step change +3.2) and a more traditional tutorial delivery (mean grade step change +2) shows that LHC students have a slightly greater numerical grade improvement (non-statistically significant, (p=0.1198) between the formative and summative assignments. Grades were compared between the two tutorial tutors who marked the abstracts in this exercise, and no significant difference between the groups was found (p= 0.1059).

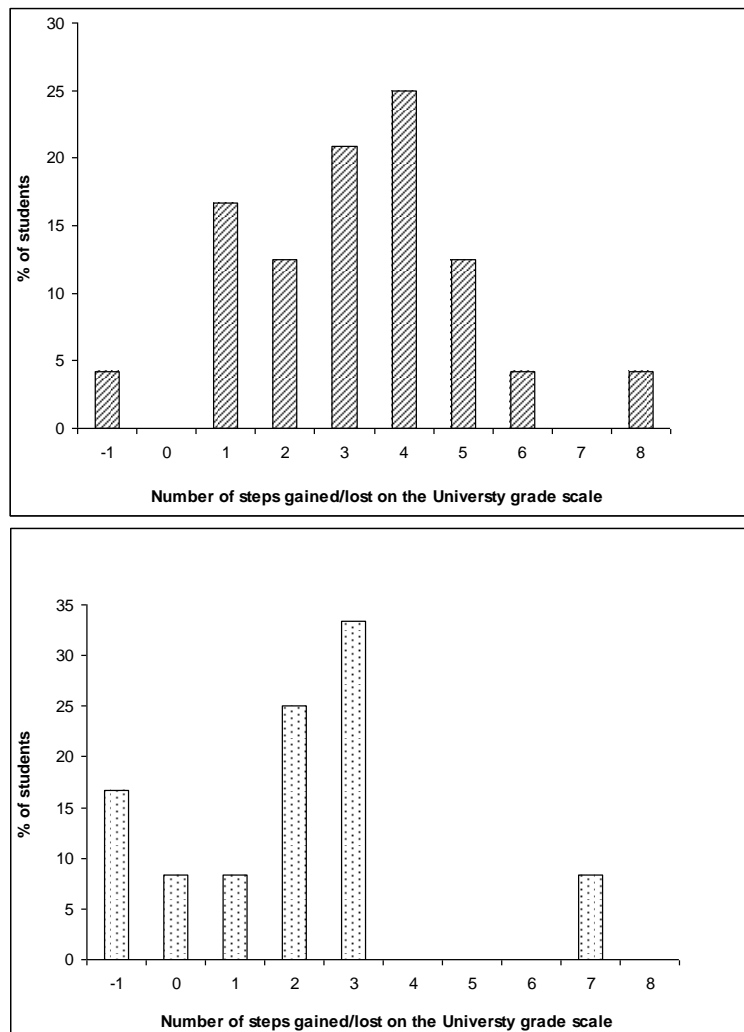


Figure 2: The difference in grades between the formative and summative assignment in the a) Lonely Heart Column tutorial (n=24) b) traditional tutorial (n=12). X axis is the number of steps +/- on the University grade scale.

Students who took part in the LHC tutorial found the session entertaining 'please rate your enjoyment of this tutorial on a scale of one to five' with 95% of students rating the session as either four or five out of five (with five rated as 'very good' and one rated as 'not at all') on the evaluation questionnaire. As well as being entertaining, all students reported that they found the tutorial helpful in abstract writing (100%). In addition 68% of students thought the tutorial helped to improve their speaking in front of others and 63% their creative thinking (Figure 3).

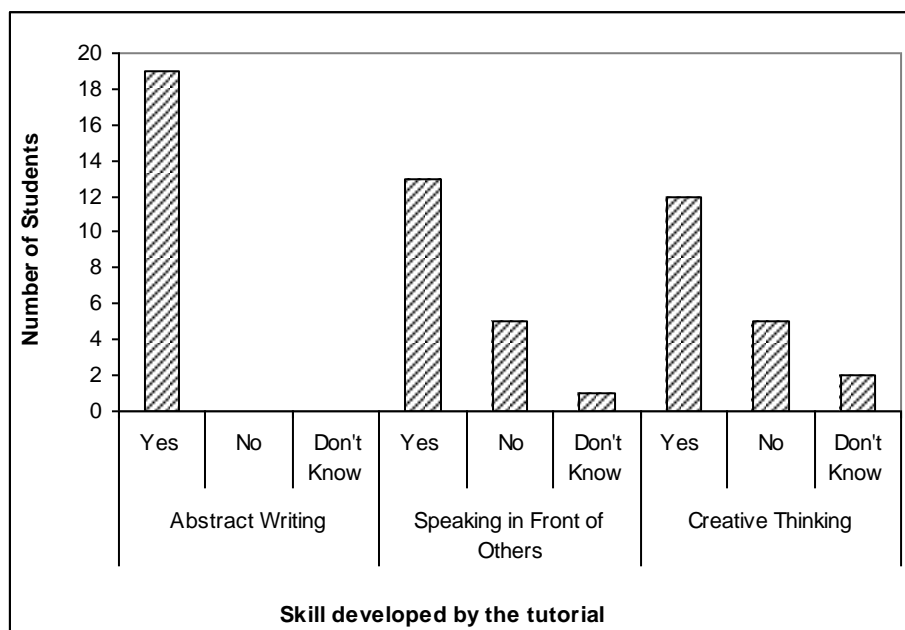


Figure 3: Student perceptions on the skills that were developed by the LHC tutorial

Students were invited on the questionnaire to leave any comments about the sessions. From the comments left (n=10) students found the session both entertaining and enjoyable (Table 2). One student described how the informal nature of the tutorial aided their learning. Some students found the LHC link to explain abstracts useful as a way of relating a scientific concept to something they come across in everyday life. Students also found the tutorial useful for developing other skills such as team work and thought processing.

- "It was really helpful and enjoyable"
- "Enjoy informality of tutorial and everyone participating in the tutorial"
- "Thought it was funny and because of this it was interesting and memorable"
- "Good method of relating abstract writing to real life"
- "It provided a point which I would not have considered"
- "...Worked really well and highlighted some new areas of thought processing - a definite benefit. Thanks"
- "Very fun and encouraged team work. Really helped with learning how to condense info into short sentences"

Table 2: Students responses in the open comments section of the evaluation questionnaire

Discussion

Abstract Writing - The LHC tutorial has aided students in their ability to write a scientific abstract. The grades students received for the summative abstract writing exercise have increased (on average) by three grades from the formative exercise prior to the tutorial (Figure 2). This rise is to be expected however, by submitting formative work students performance should improve irrespective of the tutorial mechanism.

It was important to the authors to show that by adopting this new tutorial approach there was no 'negative effects' on the students' performance in the summative assignment compared to their peers. Comparison of the LHC tutorial with a traditional tutorial shows that both approaches do increase the students abstract grade, and there is no statistical difference between the two methods of tutorial delivery. Viewing the students' performance individually rather than as a group shows that some students dramatically improved their performance after the LHC tutorial.

A higher proportion of the students in the LHC tutorial (45%) raised their grade by more than four steps compared to the traditional tutorial (8%). One explanation for this rise could be that multiple individual learning styles are incorporated in the LHC tutorial. The tutorial helps students learn by incorporating elements of visual (biographies, LHC), auditory (verbal feedback and tutor explanations) and kinaesthetic (creative abstract writing) learning.

It could be argued that the LHC tutorials are more akin to a précis than a scientific abstract. Although the two are not analogous the skills necessary in reading and condensing the important elements of a large body of knowledge are comparable. This is reinforced by the student performance in the summative exercise.

Additional benefits – Students themselves highlighted several additional benefits such as the development of creative processes and thinking, and communication skills in adopting this tutorial approach (Figure 3). It is likely that some students in a more traditional tutorial would also rate these skills as have been being developed. These two skills were suggested as options on the student self-evaluation questionnaire which may have led to some bias (based on the skills the tutors thought should be improved). There could be other skills that have improved which were not captured in this feedback mechanism. It is also the opinion of the authors that this tutorial with its real world links and higher level of entertainment was appreciated by the students and help foster good lecturer-student relations that lasted beyond the tutorial.

Entertainment – All the students who submitted questionnaires enjoyed the tutorial session. The tutors observed that LHC delivery leads to a good sense of camaraderie amongst the students. The enjoyment of this sessions does depend largely on the group dynamics and the tutors involved (having run this for two consecutive years) have had slightly varied experiences in engaging the class. Students seem to appreciate the association of a critical but 'dry' scientific technique to everyday life situations (such as the lonely heart columns and celebrity profiles). The element of humour and the relaxed attitude to this tutorial were key to its successful implementation.

The writing of scientific abstracts is a skill that improves with practice; it is the opinions of the authors that the enjoyment of this tutorial increased the amount of times students attempted to abstract information both in the tutorial and between the tutorial and the summative assessment. An interesting tutor observation from the 'rough' notes section in the summative abstract writing exercise shows how one student used the LHC to frame their abstract "remember, can I tell who this paper is and what he did ... from my abstract".

Summary – The LHC tutorial is a novel and fun way to teach abstract writing skills. Students enjoyed the session and improved their abstract writing skills to the same extent as students in traditional tutorials.

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Tapping for PEAS: Emotional Freedom Technique (EFT) in reducing Presentation Expression Anxiety Syndrome (PEAS) in University students.

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Abstract

Presentation anxiety is one of the most common fears that people express. Emotional Freedom Technique (EFT) which is also known as tapping is an emerging complementary therapy that has been used to treat a variety of phobias. Participants were a convenience sample of 25 3rd year Foundation Degree level complementary therapy students undertaking a Research Module. The module included an assessed presentation, which was known to generate anxiety among students. The students were given a 15 minute assignment workshop. They then received a 15 minute lecture introducing EFT and were then guided through one round of EFT focussing on their fear of public speaking. The students were assessed using the Subjective Units of Distress (SUDs) and the Hospital Anxiety and Depression Scale (HADS) pre and post EFT. Immediately following their presentation, the students were invited to take part in a brief face to face interview to explore their use of and feelings about EFT. Twenty one of the total sample of 25 students (84%) participated in the research. There was a significant reduction in SUDS ($p=0.002$), HAD ($p = 0.048$) and HAD Anxiety Subscale ($p=0.037$). There was no difference in the HAD Depression Subscale ($p=0.719$). The qualitative data were analysed using a framework approach which revealed 3 themes: nerves, novelty and the practical application of EFT. Despite the limitations of the study, the results suggest that EFT may be a useful addition to curricula for courses that include oral presentations.

Introduction

Glossophobia is the fear of public speaking (Hancock *et al* 2010) and comes from the the Greek *glōssa*, meaning tongue, and *phobos*, fear or dread. It is extremely common and intense and research has shown that three out of every four people suffer from public speaking anxiety and that is the single most common fear that people express (Furmark, 2002; Pollard & Henderson, 1998). Fear of public speaking affects the speaker physiologically e.g. dry mouth, increased blood pressure, blushing, sweating and irregular breathing and emotionally, as they fear humiliation and looking foolish (Kushner, 2004). Women also report higher rates of public speaking anxiety than men (Furmark, 2002; Pollard & Henderson, 1998).

EFT (Emotional Freedom Technique) which is also known as tapping therapy, is a new and emerging complementary therapy. It is a gentle therapy that can be used for a variety of issues, such as those outlined below. Subjects gently tap with their fingertips on acupressure points (mainly on head/hands) and relate this to the voicing of specific statements. (Callahan & Trubo, 2001; Craig, 2011)

Research to date has indicated that EFT (Craig, 2011), and its predecessor, Thought Field Therapy (TFT; Callaghan & Trubo, 2001) has been used in treating problems and phobias such as needle phobia (Darby 2001), claustrophobia (Lambrou et al 2003), fear of small animals and insects and other phobias (Wells, 2003; Salas 2010), fibromyalgia (Brattberg, 2008), weight loss maintenance (Elder et al, 2007), social phobia and agoraphobia (Irgens, Uldal, & Hoffart (2007). EFT has also been used to treat teacher burnout (Reynolds & Walden, 2010), anxiety (Andrade & Feinstein, 2004), post traumatic stress disorder (Karatzias et al., 2011) and a wide range of other conditions. EFT is currently the subject of several ongoing trials and studies, including one addressing the effects of EFT on Stress Hormones (Cortisol) and the impact of EFT on depression (Soul Medicine Institute, 2011).

A review of the preliminary evidence for EFT and TFT has been carried out (Feinstein 2008). This review included a range of evidence from anecdotal reports to randomized clinical trials and highlights the preliminary nature of the current evidence base for EFT and TFT, as well as the limitations of the research to date.

A systematic review of EFT is currently underway by the authors, who have identified 6 randomised controlled trials of EFT to date. Preliminary analysis of these papers to date suggest that EFT research is limited by low sample size, poor quality randomisation, failure to assess compliance, high dropout rates as well as lack of standardised outcome measures.

Despite these research limitations, there is however, an emerging literature that suggests that EFT is a feasible treatment for test and presentation anxiety in students. For example, EFT has been used to treat test anxiety in Canadian University students. These students also successfully transferred their EFT skills to

other stressful areas of their lives (Benor et al, 2006). Schoninger (2004) used TFT to treat public speaking anxiety and Sezgin & Özcan (2004) treated test-taking anxiety with EFT. EFT has also been adopted by a Health Promotion Department at in the USA as part of the curriculum for a stress management course. Sezgin and Ozgin (2009) investigated the effect of EFT and Progressive Muscular Relaxation (PMR) on test anxiety in high school students and found beneficial results in the EFT group.

Many students report high anxiety levels around presentations whether assessed or not. Much research has been carried out into interventions for public speaking anxiety in students including internet self-help (Tillfors et al., 2008; Botella et al., 2010; Botella et al., 2009; Botella et al., 2007), virtual reality therapy (Harris et al 2002; Lister et al., 2010), self-modelling interventions (Rickards-Schlichting et al., 2004), biofeedback and speech skills training (McKinney et al 1982), voice and diction and general communication skills (Hancock et al., 2008). This paper aims to assess the impact on EFT on a cohort of complementary therapy students' public speaking anxiety.

Experiential learning has been shown to enhance research skills and competencies, raising research awareness, improve critically appraise skills, enhance students' confidence and ability to recognise good quality research and enable them to review the implications of research within practice (Irvine et al., 2007). It has also been shown to stimulate learning, increase knowledge and to improve performance in research related assessments (Veeramah, 2004).

Research has also shown that EFT is effective with large groups of people (Rowe, 2005) and so has the potential to offer very efficient and cost effective interventions to student groups.

Experiential learning is particularly important for complementary therapy students as research into complementary and alternative medicine (CAM) obtains less than 0.003% of research funding nationally and so opportunities for CAM students to obtain research experience is very severely restricted (Lewith, 2011).

Students undertaking a Therapy Practice Research Module receive no hands on experience of research and so EFT was used for two purposes; to provide an active experience of participating in research, while receiving an intervention that might reduce their presentation anxiety and hence improve their performance.

Methodology

A convenience sample of 25 3rd year complementary therapy students undertaking a Therapy Practice Research Module as part of a Foundation Degree were invited to participate in the project. 21 out of 25 (84%) of the cohort agreed to participate and

gave written informed consent. The students were required to deliver a 10 minute presentation which formed an important summative component of their degree. The students were given a 15 minute assignment workshop outlining the requirements for their assessed presentation. They were then asked to rate their subjective units of distress (SUDs; Wolpe, 1958) and to complete the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). Next, they received a 15 minute lecture introducing EFT and explaining the tapping points and the theory behind it. Following this, they were guided through the tapping process by TS, a qualified and experienced EFT practitioner and completed one round of EFT focussing on their fear of public speaking. The EFT protocol used followed the 'basic recipe' (Craig, 2011) tapping on 12 acupuncture points (5 on the head, 2 on the torso and 5 on the hand) while tuning in to the anxiety about presentation. The students were instructed that they could continue to use EFT on themselves any time they wished during the nine weeks between the EFT training session and their oral presentation. Students were not directly instructed to continue tapping, but were told that they could use EFT on themselves, and were asked about this post presentation.

Immediately after giving their presentation, the students were invited to take part in a brief face to face interview in which they were asked if they had used EFT prior to their presentation, how effective they felt it had been and if they would use EFT in future. Responses were captured verbatim in writing. The qualitative data were analysed using a framework approach (Richie and Spencer, 1994).

The quantitative data were entered into SPSS. Data were screened for normality using the Shapiro-Wilk test. SUDs and total HAD were found to be normal and were analysed using the paired t-test. Anxiety and depression were non-normal and therefore the non-parametric equivalent, the Wilcoxon Signed Rank Test was employed. Before and after mean scores (SUDS and total HADS) were compared using paired *t*-tests and the anxiety and depression subscale were compared using the Wilcoxon Signed Rank Test. Where P-values were <0.05, the differences were considered statistically significant.

Ethical approval was obtained from Staffordshire University Research Ethics Committee.

Results

SUDS data and the Hospital Anxiety and Depression Scale (HADS) scores were collected before and after the intervention. A total of 21 (84%) complementary therapy students participated in the research. 19 (90%) students completed the pre and post SUDS and 15 (71%) completed the pre and post HADS.

Table 1 shows that means for SUDS, Anxiety Subscale and total HADS were significantly lower after the EFT intervention. There was no significant difference in the depression subscale.

Measure	Time	Mean (SD)	Mean paired diff. (SD)	t	p
SUDS	Before	5.11 (2.447)	1.789 (2.123)	3.673	0.002
	After	3.32 (2.358)			
Anxiety	Before	11.33 (3.288)	2.333 (3.811)	-	0.037
	After	9.00 (4.811)			
Depression	Before	5.47 (5.397)	0.670 (1.710)	-	0.719
	After	5.40 (5.138)			
Total HADS	Before	16.73 (7.601)	2.200 (3.932)	2.167	0.048
	After	14.53 (8.999)			

Table 1. Results of inferential analysis pre and post EFT

12 students who completed the anxiety subscale scored 8 or above on the HAD anxiety subscale (scores 8-10 cause for concern and 11-21 probable clinical case).

The qualitative data produced richer insight about students experience of EFT. Seven (33%) students indicated that they had not carried out any EFT since the initial session. The remaining 14 students gave positive feedback about their experience and these were characterised by three overarching themes, one relating to nerves, one to an appreciation of its novel approach and another to the practical application of EFT. Quotes are presented to illustrate the themes; names have been changed to maintain confidentiality.

Theme 1: Nerves

It was evident from the data that EFT produced a calming effect for students which helped to reduce their pre-presentation nerves, as illustrated by the following data extracts:

I found the EFT we received during our session extremely effective. I was under a high level of stress that evening due to personal events which had occurred at home. The EFT calmed me down, and enabled me to take in a lecture about understanding statistical data that I otherwise would never have been able to have comprehended... I've used it since, really helped with presentation anxiety. (Tina)

*Did tapping. I was still really nervous, but it really helped me loads.
(Margaret)*

*I was much calmer than normal. EFT has really helped me I have used it
lots over the last few days (Jane)*

Theme 2: Novelty

As well as the therapeutic effect of EFT, the students highlighted their appreciation of the novelty of EFT, which as the ensuing quotes demonstrate, they found to be fun, clever and innovative:

*I went home, bought EFT books and started tapping right away. It was
wonderful... made me laugh. It was alien to us, but it was great. It was
really clever. (Tina)*

EFT gives you focus. It's very calming. It's also fun. (Lisa)

Theme 3: practical application

The participants talked of the practical application of EFT. It appears that this is a process that can be used in various settings with little disruption to everyday life:

*You can use it whenever. We did the EFT as a group, but it's great that
you can use it yourself for anything, anytime and anywhere you want and
you don't need anyone to help you. (Kath)*

*Did tapping. I am normally terrible with presentations and in the
bathroom more than anywhere else! EFT helped. Not in the bathroom
this time for the first time when doing a presentation. I will use it again.
(Helena)*

Discussion

This small pilot study explored the feasibility of group EFT in reducing presentation anxiety in University students. The results suggest that group EFT is an effective intervention in reducing presentation anxiety as measured using SUDS and HADS. Indeed, the anxiety reducing effects of EFT reported in this study are consistent with the findings of previous research that has used EFT to reduce exam stress and presentation anxiety in high school and university students (Schoninger, 2004; Sezgin & Ozgin, 2009; Feinstein 2008).

The qualitative data analysis revealed three themes: nerves, novelty and the practical application of EFT. Students on the whole felt that EFT was useful in reducing their anxiety, enjoyed the novelty factor of the intervention and liked the fact that they could apply it themselves; wherever and whenever they needed it.

This last theme is an important consideration, as therapeutic intervention is not routinely available prior to assessed presentations and so EFT is a very useful brief self-intervention that students can use whenever needed without the need for a therapist to be present. This was also highlighted as a plus point of EFT in the study of exam stress in high school students (Sezgin & Ozgin, 2009).

There was no significant difference in pre and post EFT depression scores. This reflects the focussed nature of EFT and the fact that the tapping was aimed at reducing anxiety and not depression.

In line with other EFT research, there were no ethical or safety issues identified during the study.

Although the results suggest that EFT is an effective group treatment for presentation anxiety, these are tentative due to the limitations of the study as outlined below.

Limitations of the study

The use of a convenience sample of complementary therapy students may have meant that many were more inclined towards the use of complementary therapy than students studying for other courses. Indeed the authors' clinical experience suggests that many people find the idea of EFT absurd, let alone the idea that this can also have an impact on their psychology and other research supports this assertion (Burkeman, 2007; Gaudio & Herbert 2000).

The students were all women, which is consistent with the gender balance for complementary therapy practice (Carryer, personal correspondence). Indeed public speaking anxiety is often reported to be greater in women than in men (Furmark, 2002). However, further research should consider the impact of EFT in reducing presentation anxiety in male as well as female students.

The sample size in the current study was small (n=25) and in addition there was no control group. The question therefore arises as to whether the findings from this small select group of female university complementary therapy students could generalise to a wider population of students. In order to explore this funding has been obtained to carry out a RCT of EFT versus no intervention using a much larger cohort of male and female students doing a sports science degree.

There was a long period (9 weeks) between the EFT training session and the presentation. Students were not directly instructed to continue tapping, but were told that they could use EFT on themselves, any time they wished and were asked about this post presentation. Seven students (33%) did not carry out any further EFT and this is similar to rates of 'dropout' in other studies that have used EFT (Karatzias et al

2011(39%); Brattberg, 2008 (40%). The forthcoming RCT will explore the reason for not continuing with EFT. For the 14 students who did continue tapping, the frequency and duration of tapping was not assessed. Future research could employ a diary method to record this and also explore the duration of treatment effects. Indeed, Wells et al (2003) demonstrated that a single 30 minute EFT session was effective in reducing specific phobias and that the results were maintained over a period of 6 months.

Twelve students who completed the anxiety subscale scored 8 or above and this highlights the high level of anxiety they felt in relation to their presentation. Anxiety levels post-intervention were still above what is considered 'normal'. It is, however, possible that a further round of EFT may have resulted in further reductions in anxiety levels (Craig, 2011).

The HADS assesses feelings of depression and anxiety over the past week. A scale such as the Spielberger State-Trait Anxiety Inventory (STAI; Spielberger, 1983) that distinguishes between the temporary condition of 'state anxiety' and the more general, long-standing 'trait anxiety' may have been a more appropriate choice of outcome measure.

The scales used were both self-report and although the results highlighted high levels of anxiety in both groups, the sample was not therefore derived from a clinically diagnosed anxious population. The HAD and SUDS did not address presentation anxiety per se and so scales assessing apprehension, confidence in public speaking and communication competence such as Personal Report of Communication Apprehension, Personal Report of Confidence as a Speaker and Self-Perceived Communication Competence (cited in Hancock et al., 2008) would be valuable future outcome measures.

Although there was an immediate effect on SUDS and the anxiety subscale, the evidence for long term effects was not addressed in this study. Future research should assess students using the HAD and SUDS immediately prior to and after their presentation.

Sezgin and Ozcan (2009) found that students scored higher on examinations post EFT. Although the quotes given by the students, suggested that they felt that the EFT was effective in reducing their anxiety. The effect that this had on their presentation performance was not assessed. In future it would be useful to assess the impact that EFT has on the students' marks.

The scales used were both self-report and although the results highlighted high levels of anxiety in the students, the sample was not derived from a clinically diagnosed anxious population.

The lead researcher (EB) was not blind to treatment group. The researcher who collected the data (EB) and interviewed the students was also the class tutor for the group and was therefore known to the students. They were aware that she was training to be an EFT practitioner at the time of the study and this may have influenced students' responses via verbal or non-verbal cues. TS is a highly experienced EFT practitioner and administered the EFT and has a strong allegiance to EFT. This may also have influenced students' responses.

The interviews with the students were not audio recorded and responses were noted verbatim. Future research should consider expanding the qualitative aspects of EFT and recording the interviews verbatim to allow for full transcription and more detailed systematic content analysis.

Conclusion

Despite the limitations of the study, the results highlight the potential role of EFT in reducing presentation anxiety in University students. In addition, given that it takes a very short time to train students to use EFT, and that once learned, EFT can be very effectively self-administered suggests that EFT may be a useful addition to curricula for courses that include oral presentations. Furthermore, EFT can easily be transferred to other aspects of student life, for example exam stress and financial pressures and so could be used to enhance student health and wellbeing.

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Conflict of interest

None

Ethical approval

Ethical approval was obtained from Staffordshire University.

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The Innovative Use of Podcasting to Support Under-Represented Groups

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Abstract

The changes in the type of student accessing Higher Education (HE) and the Governments desire to widen participation for non-traditional students, presents new challenges for staff. This paper examines the benefits of using podcasts to support teaching and learning. There is a clear recognition for the need to develop the ability to 'design, plan and orchestrate' learning activities that involve the use of podcasting as part of a learning session. This paper examines podcasting within a framework based on the concepts of Widening Participation in Higher Education. This paper also examines factors concerning the need to transform HE to meet the needs of diverse students. The author outlines some innovative ways of re-establishing widening access and the concept of the 'new student'

Introduction

The main aim of this paper is to look at some of the positive and negative aspects of using podcasting to support teaching and learning in Higher Education. There is no doubt that the area of podcasting is an innovative practice in its own right, however the paper examines this practice against the backdrop of Widening Participation (WP), widening access and student retention.

The paper observes the developing use of technologies for learning, focusing on these to support under-represented groups. The paper outlines some innovative ways of re-establishing widening access in the contemporary political and economic context. The author provides some examples employed as innovative methods in this context. The paper concludes with some considerations for the future.

Digital skills for a changing environment

The development and promotion of Widening Participation throughout the first decade of the twenty-first century has resulted in a large increase in the number of people in the UK accessing HE (HEFCE, 2010). Study at Higher Education Institutions (HEIs) now attracts people from a broad range of backgrounds, particularly people

from low participation neighbourhoods, students from non-traditional backgrounds, Black Minority and Ethnic (BME) groups and disabled students (HEFCE 2008). Certain literatures (Cullen, 2007; Cooke, 2008; JISC, 2009 and Redecker *et al*, 2011) alluded to the importance for staff to not only develop their own digital skills but train to provide a very eclectic package of different methods of delivering learning for the broad spectrum of learners, many with different learning styles (Biggs and Tang, 2011).

Leese (2010) discussed the concept of the 'new student', one who has to juggle work commitments with full-time study. Leese claimed that her findings revealed that 70% of students were doing some paid work to support themselves whilst at University, and less than 30% of students were spending more than 15 hours per week on campus (Leese, 2010, p.244). The earlier research of Christie, Munro and Wagner (2005) provided a somewhat prophetic indication that students' entering HE from non-traditional backgrounds were spending much shorter periods of time on campus often only attending for taught sessions. Christie *et al*. (2005) suggested that work commitments, childcare and caring for relatives played a major factor in the students' attendance. Increased student fees and the current economic situation may serve to exacerbate difficulties for issues surrounding access and retention (Brooks, 2012).

More active ways of learning.

New challenges require the need to align Information and Communications Technology (ICT) with pedagogy to create participative learning environments which enable high quality learning experiences that keep learners interested and motivated (Redecker *et al*, 2011). A major factor to consider when confronting the problems around funding for Widening Participation is the use of Information Technology (IT). HEIs will need to respond more flexibly to individual learners' needs (Cullen, 2007; Cooke, 2008; JISC, 2009). Digital technologies that help to break down traditional barriers experienced by non-traditional learners may help retain students by providing continued support throughout their time in HE. With smartphones, tablets and other forms of technology at their disposal, today's students can take advantage of a flexible approach to learning, where they can access resources or catch up on lectures at any time of the day or night (educause, 2005). HEIs need to capitalise on this paradigm shift and take advantage of the role of technology in widening access and improving the student experience at home and internationally. One could argue that the future of teaching will revolve around the provision of high quality education that fits around students' other work and life commitments. Redecker *et al*. (2011) predict that learning strategies such as podcasting will provide personalised, tailor-made and targeted; informal and flexible learning opportunities.

Cann (2007) claims that his study gave an indication that both quantitative and qualitative analysis of the use of audio podcasts in his study; collected via download statistics, module questionnaires and focus groups clearly showed that these were

not popular with students. Cann (2007) claimed to have abandoned his podcast learning support model in favour of direct access to short online videos in the style of YouTube. The videos ranged in length from three to five minutes and consisted of a short "talking head" introduction and screencasts; digital recording of computer screen output with audio narration (Cann, 2007; Wakeman, 2013).

The author has used podcasting to create feedback for students and has recently created a podcast that contains an overview of the history of policing in the UK. Reflecting on this practice gives one a clear vision of how the use of podcasting can support Widening Participation. Information about HE and important facts about life at University can be disseminated to non-traditional potential applicants via schools and Further Educational Institutes using podcast, YouTube and streaming facilities. Although this paper primarily deals with Podcasting it is important to treat that particular technology as part of a menu of technologies for learning that can be used in conjunction with other technologies or as a support for face to face contact (Lazzari, 2009)

The benefits that manifested as a result using new technologies provided ideas for further improvements and the development of more complex activities. A review of the work of Gillen and Barton (2010) and Benfield *et al.* (2008) found that students preferred to study at home, many using their own laptops to get online. Once online, students most frequently engaged in activities related to accessing and reading online learning materials.

The use of podcasting to support a learning activity

The analysis of this particular learning activity revolved around the author's design and use of an online assessment together with an audio podcast created with Audacity containing feedback for the learner. The design was based on clearly defined learning objectives (Littlejohn and Higgison, 2003, p.16).

The most important aspect of the plan involved the identification of the intended learning objectives and outcomes (JISC, 2009, p.12) and ensured that they were aligned with the learning activity. The podcast was designed to provide detailed and immediate feedback to learners who were presented with scores and explanations of their performance immediately. Thus affording them the opportunity to experience bespoke feedback and take note of potential areas for revision.

The author created individual audio feedback on the performance of each learner in the form of a podcast using Audacity (open source multilingual audio editor and recorder software). The audio feedback allowed students to use their technology-based entertainment systems (iPods, MP3 players) for the feedback process (educause, 2005, p.2).

In the analysis of the effectiveness of the learning activities it was important to consider why podcasting was preferable over other types of learning activity in

meeting these learning outcomes. In selecting this technology the author questioned the advantages and disadvantages for using this particular method and considered what traditional methods the technology replaced. The electronic nature of assessment incorporated electronic marking and highlighted individual areas for improvement for the student. The students were then given an option of feedback either in the form of the MP3 audio feedback file, or an electronic written document such as a word document or a direct email; both posted to the student's University email account.

The audio feedback format allowed for flexibility in its production. An analysis of this activity demonstrated many advantages. Primarily the podcast provided the students with the opportunity to listen to the feedback at their convenience, listen on several occasions during which they could reflect on the contents. The podcast still provided a personal feel as it was tailored by the tutor for each student. This activity saved student's time as there was no need for them to physically attend feedback sessions (Bostock, 2010 p.3). From the tutor's perspective the use of audacity was practical and user friendly. Students were already familiar with technology. The tools to implement the activity were simple and affordable.

Feedback from all the students appeared to be very positive about the new methods introduced, primarily in the sense of how quickly the results of the assessment were available and the use of the podcast. Some of the comments students' made are shown below.

"I found the podcast feedback very detailed. It seemed to feel really personal and relevant to me."

"I was impressed with how quickly I received my feedback; it was very clear with lots of advice. I played over a couple of times as well."

With this in mind the author took the approach that all elements of the activity provided savings in time, workload and adhered to the policies on environmental issues such as saving on the use of paper or the need for students having to drive in to the University unnecessarily. The planning and organisation of the activity provided development and learning opportunities for the author.

Some important factors considered included: an explanation to students why the activity and technology was being used, the students in question reported that they felt very comfortable completing online assessments and taking feedback via an MP3 file; some students did however request and receive a face to face session.

It is interesting to reflect on different learning styles (Honey & Mumford, 2006). As a result of this activity the author was approached by two students with visual impairments who enquired into the possibility of expanding the provision of podcasts for a supplementation of lecture notes and workshop materials. The opportunities to support students with visual impairments is clear and prior to the activity in question one of the students had not declared the fact that she had a hidden impairment related to sight. Other students for whom English was not their first language

commented that the ability to play the podcast over again several times had made learning easier and more convenient. Other students described listening to the podcast on UK policing while travelling and at work (Lazarri, 2009). On the reverse side is the recognition this technology is not appropriate for students with hearing disabilities will. As previously discussed, Podcasting is only one so called tool in the workbox.

It was clear from the learning activity that there were some considerations to take in to account in the preparation and dissemination of podcast. There is an obvious element of time management required for the production of the material. Staff and students need adequate training and access to the right equipment. The production of podcast lectures and workshop notes is time consuming. In the event of staff being required to produce a full package of podcasted products there should be some acknowledgement by line management of these factors. Podcasting shouldn't be promoted as an opportunity for students not to attend lectures, tutorials and workshops. The use of technology for learning should be used to complement and support the face to face contact element.

Conclusion

This paper makes the argument that Widening Participation and widening access and student retention can be supported by technologies for teaching and learning. The advantages to students who have to work, care for others, have disabilities, need extra support is clearly obvious. Podcasting provides flexibility, support and can be tailored to groups of various sizes or to an individual student if needed. The concept of the 'new student' shows a need for staff to use a variety of innovative teaching methods to deal with the challenges of modern society. This paper has provided a flavour of how one of the methods 'podcasting' can be used as part of a package to address student diversity.

The activity used in this paper was based on providing feedback for a learning activity. Further research needs to be carried out to analyse how podcasting would be accepted more generally as a learning material. The issue of the time required to produce good quality and informative podcasts needs to be considered. Further research could examine some of the implications of using podcasts over a period of time in case where the teaching material has not changed. It may be the case that the initial production of a podcast could be time consuming, however if the same podcast can be used on a number of occasions, over a number of semesters, there may be a long term benefit. It would be interesting to test Cann's (2007) theory about podcasting being made redundant by screen-casting and video-casting. The author intends to conduct further research in the area of podcasts for visually impaired learners in HE.

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An innovative approach in teaching public health nutrition to university students

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Abstract

Recent study suggests that learning principles of public health related topics in programmes concentrating on management of a patient's clinical condition at individual level, is a problematic area; whilst introducing a variety of educational activities including work and/or experience based learning may offer the potential to address the issue. This paper reports on an innovative approach for enhancing classroom engagement and the overall learning experience of students studying public health nutrition. A package consisting of ten pedagogical interventions such as an animated online environment and role play was introduced. A combination of qualitative and quantitative evaluation was conducted; generally students believed that their overall engagement had improved and all activities were to some extent useful in improving their engagement. Among the activities, the flexible structure of the module, continuous and regular post it note evaluation and role play were the seen as most favourable. All criteria in the module evaluation considerably improved compared with the previous year, providing evidence for the enhanced learning experience. Some of the activities that are included in this study might be applicable to other programmes; however discipline specific research is required prior to implementation. Further research is required to accurately evaluate student engagement.

Key words: Intervention - Educational activities - Student engagement - Learning experience - Public health nutrition

Introduction

Module leadership is one of the main areas of responsibility in my current position and 'Public Health Nutrition and Dietetics' is one of the modules that I lead within my department. This is a level three (year four), single module for BSc Dietetics aiming to 1) enable students to apply their knowledge of nutrition to improve the health of the populations and groups in a variety of settings; and 2) provide students with a detailed understanding of current nutrition and health policies and the process of constructing, implementing and evaluating them. Public Health Nutrition and

Dietetics is a module that traditionally has not been '*troublesome*' for us. Students have generally found it straightforward and relatively easy. Usually there has been a good 'pass rate' and there has not been a need/instruction to revise or improve the delivery of this module.

So when I started working at my current department in March 2009, I started with a series of observations of the module sessions to get to know the module. I must mention that I am a Registered Public Health Nutritionist (i.e. the field is my area of expertise) and considering that the colleagues who were previously delivering this module were clinical dietitians, my first impression was that they did an excellent job with the delivery of the learning outcomes. Within the class though, there was something peculiar happening.

I realised that the class was generally 'too quiet' compared with other modules in the programme. Participation of the students in class activities was limited to three or four students (whom I would consider proactive). The majority of the students generally agreed with the comments of the teacher, neither asked any questions nor answered to the questions of teacher, which considering the famous Perry's theory of *changes in thinking and level of learning* (Perry, 1970) did not seem to be right.

Perry's studies of changes in thinking demonstrate how students develop increasingly sophisticated modes of thinking as they progress through Higher Education (HE) (Ramsden, 2003) and grow from being 'dualists' (who believe that 'right' answers exist, held by teachers and textbooks) to 'relativists', who have learnt about the existence of alternative interpretations of 'reality' (Brockbank and McGill, 1998, Ramsden, 2003). Considering the fact that these were the final year students, about to graduate from the university, this lack of participation in class activities and discussions was *unusual* compared with other level three modules within the BSc Dietetics.

When I later on talked to one of my colleagues, I was given some explanations, which I will try to present in the following paragraph (this conversation took place while we were observing students during group discussions. Students were preparing their answers to be presented to class. This conversation is not transcribed verbatim):

- Aren't they generally too quiet? Those two groups are just talking about fashion and food...
- That's the thing. They are always like that.
- But why they are like this? Year four students? (...some dialogue about what kind of students we were and complaining about these new students...)

- Well, they are not the strongest cohort, there is a lot going on in their lives, they have a lot of work in year four and at the end of the day, most of them are going to end up being (acute/clinical) dietitians working in the wards of hospitals (so they might not really need this module: unsaid)

- That's depressing to watch. Let's see if I can lift them up a bit. Wish me luck!

- (Me moving forward and talking to the classroom): Right, we are going to have a game based on (TV programme called) The X Factor. Do you watch The X Factor?....

Despite this lack of engagement and interest in the classroom, almost all of the students passed the module without a problem, some of them (the proactive ones?) would get a very good mark in this module and the average module mark (usually between 55-65%) was very good. This made the puzzle even more complicated. So being so passive in the classroom, these students were not developing to be 'relativists' (as William Perry would have described) and yet they managed to somehow meet the learning outcomes and pass the module. A few months later (and especially after looking at the coursework), I found a possible explanation.

In clinical and research modules, these students learned about 'Evidence Based Practice' (EBP) and the critical appraisal of documents. For the coursework of this module (coursework 1: critical appraisal of a current policy and coursework 2: devising a food and nutrition policy at local level), they would have usually considered and cited several textbooks and articles (and perhaps as they would have done in their other modules), mentioned the strengths and limitations of the theories (maybe regurgitating how different authors supported and/or criticised each other in their books), without acknowledging the completely different aim of this module and understanding it in-depth. For this module, we needed our students to learn the process of nutrition policy making (at international, national and local level) and appraise the current policies via constantly *visualising* the work with the public and facing the challenges of the outside world (which I think were the missing elements). Ultimately, what was completing this *vicious cycle* was the fact that the lecturers (excellently delivering the *principles* of public health nutrition), would have evaluated the students, assessing their knowledge (and maybe not application of the knowledge for improving health), and their expectations would match the minimal (and rather book/article orientated theoretical) perspectives of the students.

In the field of public health nutrition, the students need to be equipped with skills and in-depth understanding to be able to face the challenges of the world of work. This is imperative when the students do not have an opportunity of placement in this field or are not able to shadow a public health nutritionist (e.g. for many international students studying in UK). For these cases, enhancing 'students' engagement' in learning via developing appropriate class activities together with

concentrating on work based learning or experience based learning may help to address the issue. This paper aims to report an innovative approach for enhancing student classroom engagement and overall learning experience in teaching and learning public health nutrition.

The concept of student engagement in Higher Education

There is no globally agreed definition for the term 'student engagement'. Different authors have different definitions, and more importantly, different interpretations of this term (Bomia et al., 1997, Brewster and Fager, 2000, Chapman, 2003, Levy and Campbell, 2008, Natriello, 1984, Riggs et al., 2009). One of the most commonly used definitions of engagement is the one from Bomia et al. defining student engagement as 'students' willingness, need, desire and compulsion to participate in, and be successful in, the learning process' (Bomia et al., 1997).

Among the definitions of students' engagement, some are not specific to Higher Education (HE) (Natriello, 1984), some consider engagement together, the same as or similar to motivation (Brewster and Fager, 2000, Levy and Campbell, 2008) or cognitive intelligence (Riggs et al., 2009). While I respect the definitions of these authors, I was looking for a particular dimension of student engagement which was appropriate for my purpose and objectives.

Although the concept of students' motivation greatly overlaps with engagement (motivation being a major determinant of engagement), and many investigators considered the two concepts together, these are not the same, as motivation is not the only predictor of students' engagement (Fletcher, 2007).

In this paper, when I refer to engagement, I neither mean the engagement in the overall process of learning, nor specific factors such as motivation that are determinants of students' overall learning. I simply mean the 'students' engagement in classroom activities'; referring to 'student willingness to attend and genuinely participate in classroom activities'. This definition is close to the interpretation of Chapman of the term (Chapman, 2003) and my hypothesis was that enhancing this dimension would improve students' in-depth understanding of the learning outcomes and would make learning an enjoyable experience for the students.

Rationale for the new approach

National view: 'Working with students and other stakeholders to ensure a high-quality learning experience that meets the needs of students is one of the Higher Education Funding Council for England's (HEFCE) strategic plan objectives (HEFCE, 2007). HEFCE is committed to working with various national stakeholders to enable a number of organisations such as the HE Academy, Quality Assurance Agency (QAA) and the National Union of Students (NUS) to work collaboratively together to develop

student engagement policies and to inform institutional practice. The report by the Open University's Centre for Higher Education Research and Information (CHERI) is an example of a national project funded by HEFCE to conduct a study on evaluating and enhancing student engagement (Little et al., 2009). The HE Academy declares that its view of student engagement 'considers students as active partners in shaping their learning experiences' and HE academy remains nationally committed 'to promote the value of student engagement and highlight examples of effective practice' (The Higher Education Academy, 2010b).

Institutional view: in the recent (2009) results of the National Student Survey (NSS), at some of the academic departments at Coventry University, the average scores of variables related to the teaching, academic support, feedback and personal development that could all directly/indirectly be related to 'student engagement' fell below the national average (The Higher Education Academy, 2010a). At the university level, we took immediate action to improve these areas and a successful approach in improving classroom engagement and consequently learning experience could set an exemplar for other modules.

Departmental view: despite the 100% pass rate of this module, in the previous year's module evaluation, at least in some criteria the students evaluated the module *poorly*. For example, only 35% of the students agreed or definitely agreed that the module is well organised and only 45% of the students were satisfied overall with the module. Enhancing student engagement could have provided the opportunity for their participation in learning and also an opportunity for the module team to understand the strategies that could improve students' learning.

Educational view: To my knowledge, there has not been a similar previous approach (i.e. a package of modifications specifically designed to improve the students' classroom engagement in learning public health nutrition) in this programme and the current intervention is the first of this kind. Interventions included in the package were selected with the view that at least one (or some) of them would help to improve classroom engagement. Educational justifications of the interventions are mentioned in table 1.

Methodology

Based on intuition and/or previous research, a package consisting of ten pedagogical interventions aiming to improve the students' engagement was introduced. The objectives were to:

1. Investigate if this set of interventions (as an overall package) can improve the students' engagement (self assessed by the students).
2. Find out what are the most suitable activities for enhancing the self assessed students' engagement.

- 3.
4. Investigate if, as a result of this intervention, the overall marks of the class and the evaluation of the module improved compared with the previous year.

The activities introduced are summarised in table 1 below:

Intervention	Description
Flexible structure of the programme	Source: <i>'Allow students to have some degree of control over learning'</i> (Brooks et al., 1998) Although students were given a timetable, they were aware that some of the topics may change based on the students' progress in achieving the learning outcomes. Some of the tutorials (e.g. coursework preparation session) were made optional to attend and this was to provide time on-campus for the student, so they could study together.
Animated environment online	Source: previous studies demonstrated that as a result of learning with integrated animations, the learning experience of students substantially improved (Rosen, 2009) In the web space of the module, all folders were converted to user friendly pictures and animations
Continuous post-it note evaluations (together with general half way evaluation)	Source: intuition Students' progress (i.e. their view toward their strengths and limitations in meeting learning outcome of each session) was evaluated at the tutorials anonymously every other week
Role play (steering committee on devising local food policies)*	Source: <i>'Design projects that allow students to share new knowledge with others'</i> (Brewster and Fager, 2000) A four hour role play for simulating a steering committee for devising local food policy was designed. Members of the committee were given not only the task, but also a character. The classroom was significantly converted to be suitable for the role play
Series of related seminars on the nutritional status in disaster management	Source: <i>'Ensure course materials relate to students' lives and highlight ways learning can be applied in real-life situations'</i> (Lumsden, 1994; Skinner & Belmont, 1991) cited in (Brewster and Fager, 2000). A hypothetical case study (nutritional assessment and intervention in disaster management in Philippines) was given and for three weeks, the seminars were based on the same scenario
Role play (panel for applying for funding)	Source: <i>'Ensure course materials relate to students' lives and highlight ways learning can be applied in real-life situations'</i> (Lumsden, 1994; Skinner & Belmont, 1991) cited in (Brewster and Fager, 2000). An interview panel of consisting of students and a lecturer, interviewing students in groups, to allocate funding based on the TV programme Dragon's Den
Online student area	Source: <i>'Allow students to have some degree of control over learning'</i> (Brooks et al., 1998) Students were allocated an area on the web, where (after approval of the module leader) they could upload their educational material on their online area and make it available to other students
Mandatory seminar group allocation	Source: intuition Students could not choose their seminar partners. They were allocated to seminar groups, after consulting with more experienced lecturers and the year lead.
Allocation of a particular country to tutorial groups	Source: arousing students' curiosity about the topic (Peñafort, 2010, Strong et al., 1995) A country was allocated to tutorial groups and they were responsible for constantly updating the class about specific dimensions of health and nutrition policies (learning outcomes) in their allocated countries
Involvement of internal & external speakers*	Source: <i>'Ensure course materials relate to students' lives and highlight ways learning can be applied in real-life situations'</i> (Lumsden, 1994; Skinner & Belmont, 1991) cited in (Brewster and Fager, 2000). Added to the second part of the module (after Easter and when students were preparing for submission of the other modules). Two external speakers were involved from Coventry City Council and The Heart of Birmingham Teaching Primary Care Trust and two internal speakers were involved from the department. All speakers were given instructions about learning outcomes of the session and to concentrate on their work experience in relation with learning outcomes

Table 1 Summary of interventions implemented to enhance the students engagement **the intervention had already been in place; however this was modified for the package to be more effective in line with the general aim of the study.*

The second questionnaire aimed to assess the classroom engagement of the students. In order to find out what are the most suitable activities for enhancing the self assessed students' engagement, the data of the questionnaires were analysed using PASW Statistics 17.0 software (SPSS, Inc., Somers, NY, USA) package. A quantitative value was allocated to each level of agreement with the statements (strongly disagree=0, disagree=1, no strong feelings=2, agree=3 and strongly agree=4). Therefore, the activities with the highest sum or mean were the most popular activities in enhancing the student classroom engagement.

Participants

Overall 34 students (32 female and 2 males, all aged 20 years and over) were enrolled in this module from which 28 students (84%) completed the main evaluation questionnaire and 15 students (45%) completed the engagement self assessment questionnaire.

Data collection and analysis

A combination of qualitative and quantitative evaluation was used to assess the intervention. Post-it-notes were used bi-weekly as a means for formative evaluation together with classroom open discussions (e.g. what did you think about the classroom activities of yesterday?).

Summative evaluation included two questionnaires. The main module evaluation questionnaire aimed to assess the overall learning experience and consisted of Likert scale questions together with open questions for qualitative assessment.

Ethical considerations

The study was conducted in line with the Helsinki declaration for human studies and in accordance with the research code of conduct of the Coventry University. Within the university, the ethics committee was asked whether the study would need approval, but it was found that this type of study did not require ethical approval since it is simply auditing the general service.

Findings

Quantitative evaluation

A bullet point summary of the outcomes of the intervention follows. More detailed summaries of the findings are presented in figures 1 and 2 and the anonymous completed evaluation forms are available for further analysis.

- All (100%) students who completed the evaluation agreed or strongly agreed that their overall engagement had improved.
- Overall, students believed that all activities were useful in improving their engagement. Among the activities, the flexible structure of the module, continuous and regular post it note evaluation of the module and role play were the favourite activities for enhancing student engagement.
- All nine criteria assessed in the module evaluation considerably improved compared with the previous year.
- The overall student satisfaction of the module improved from previous year's 45% to 93%.
- Overall pass rate and mean mark of the module (100% and 61.93% respectively) did not statistically change compared with the previous year (100% and 62.16%, $P>0.05$).

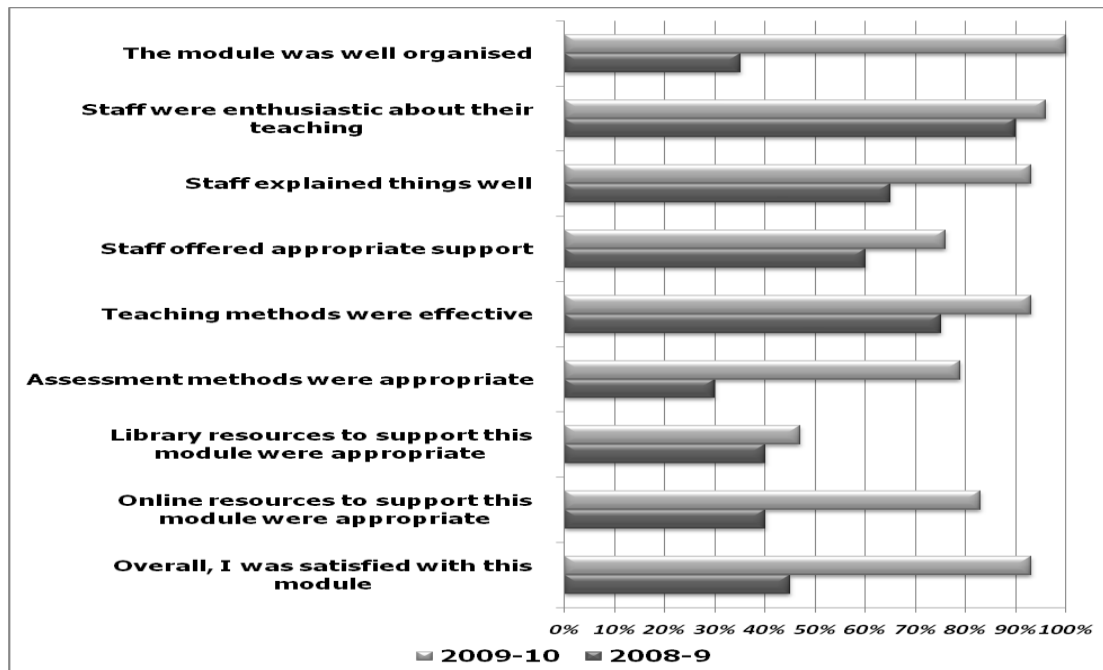


Figure 1 summary of findings of the module evaluation

All activities scored above the average of three, demonstrating that students agreed or definitely agreed that these activities individually contributed to enhancing their engagement (figure 2).

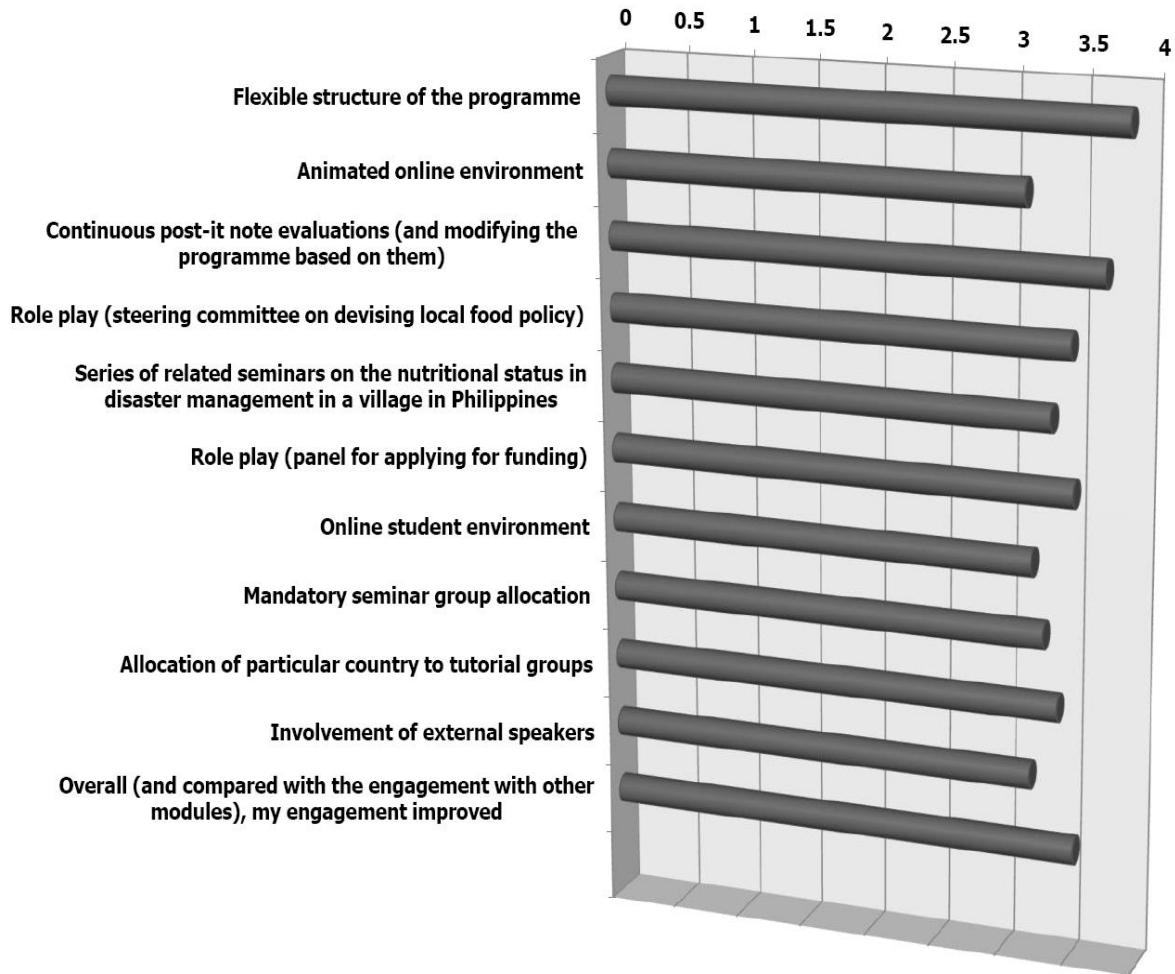


Figure 2 the most suitable activities for enhancing the students' self assessed engagement

Qualitative evaluation

In the qualitative evaluation of the module, students clearly acknowledged the *variety* of activities that helped them to improve their learning. Students commended the '*very different*', '*interactive*', '*enjoyable*' and '*engaging*' module. Some of the direct quotations of the students follow (the quotes are transcribed verbatim):

'(the approach is) very interactive, involves every member of the class'

'teaching methods are engaging'

'(the approach) makes quite a flat subject, interesting'

'group work to learn from each other and improve communication skills (is useful)'

'sessions are more interactive than other modules'

'(I) love having the debates. I feel this is the skill that I need in the future, so it's good to practice it'

'everything is put up on CUOnline, which is useful as I do look at other people's work and can refer back to it, if needed'

'the group work is enjoyable and helps to put theory into practice'

In terms of feedback from peers, one of the external speakers from the National Health Service (NHS) clearly commented on the enhanced engagement of the group compared with the previous year (this quote is not transcribed verbatim: *'there is something about them, what have you done? (joking), they are lovely, previous year they were not like this...'*) and encouraged students to apply for a job in her department, when there is a job vacancy.

Discussion

Alignment with national, institutional, departmental and educational priorities

Dimensions of the students' engagement with examples to support a conceptual framework of student engagement at national, institutional, departmental and discipline specific sectors are previously described by the HEA (The Higher Education Academy, 2010b).

With regard to the alignment with national priorities, there are three main principles for the HE Academy's work on the students' engagement to A) develop the understanding of the meaning of the term, B) promote a cultural change that sees student engagement as a central aspect of learning and teaching, and C) share evidence based practice on students working as active partners in shaping their learning experience (The Higher Education Academy, 2010b). With regard to the principles of the HEA, the current intervention seems to be a success.

Considering the alignment with faculty and departmental priorities, elements such as developing the students' learning experience and developing an innovation in the curriculum, which were

addressed in this intervention, were in line with the faculty teaching and learning strategy of 2010-2015.

Assessment of the students' engagement rate is difficult and a self evaluation of the engagement is used in this study. Using a validated method of assessing student engagement should be addressed in further work. If we consider enhancing students' engagement as an 'outcome', the self assessed enhanced engagement overrides evidence of the success of the current innovation. Alternatively, if we consider enhancing student engagement as a means for achieving the outcomes (Markwell, 2007), such as improving the learning experience, the considerable improvement observed in all elements of the module evaluation gives strong evidence for the success of the innovation.

I am not aware of any similar interventions based on a package of changes affecting the classroom engagement of the students. Similarly, direct comparison with the national, institutional and departmental student engagement rate within the subject area is not possible (because of a lack of similar intervention in the programme, as well as difficulties with assessing engagement). On the other hand, table 2 demonstrates how our elevated overall student satisfaction rate moved to higher than the average national and university rate and matched our excellent practice within the department of physiotherapy and dietetics.

	All institutes	HE CU	PD	328DT
2008-9	83%	79%	98%	45%
2009-10	82%	78%	96%	93%

Table 2 Overall student satisfaction rate of the Public Health Nutrition Module (328DT), compared with the average satisfaction rate across all Higher Education institutes, Coventry University (CU) and the Department of Physiotherapy and Dietetics (PD)

Disciplinary-specific aspect of the trial

Although several authors already demonstrated how introducing new activities to the educational processes could improve the learning experience of the students (Davies, 1999, Gibbs et al., 1992, Gibbs and Habeshaw, 1992), and many elements of the current trial can be implemented in other educational settings, the activities of this trial were discipline specific (i.e. specific to public health nutrition) to improve students' desire, knowledge and skills to face the challenges of the outside world. This seems to be achieved because I understand that three students have already got a job to work as a 'Community Dietitian' (public health dietitian) even before they officially graduate from the university and I am aware of two other students who are applying for jobs in this field.

Limitations of the study and direction of further research

With regards to the positive outcome of this programme, one can argue that success is not necessarily down to the innovative programme introduced particularly as we are comparing two different cohorts of students that might have had very different characteristics, and there has been no attempt to control the intervening variables. Whilst I acknowledge these, I restate that firstly the extent of the success of this intervention in improving the classroom engagement and particularly learning experience is so considerable, that even if a part of it, is because of the introduced intervention, the overall success justifies the necessity of the further investigation. Secondly, these changes were the only main changes compared with the previous year's programme and this minimises the possibility of the major contribution of other factors in achieving success. Moreover, the performance and the module evaluation in other modules have already demonstrated that the current cohort has not necessarily been a cleverer cohort or a cohort generally more satisfied with the course in comparison with the previous year's cohort.

Although all criteria assessed in the module evaluation improved compared with the previous year, the average mark of the module did not significantly improve compared with the previous year. A possible explanation is that regardless of the changes to the structure of the module, the formal assessment of the module did not change. The innovative activities introduced to the module require innovative assessment methods and this is a priority for teaching public health nutrition in our programme.

A potential limitation of this intervention is the fact that the changes are delivered as part of an educational package and it is difficult to assess what would be the impact of a single intervention (if any). One can argue that the package introduced *variety* in the delivery and this has been the 'variety' that had relieved the classroom boredom. Even if it is so, that would still be an achievement in improving the learning experience of the students. Furthermore, it should be remembered that the introduced intervention is only a preliminary experience in this field and more evidence is required from the replication of this intervention, ideally with better design and particularly more accurate evaluation of the trial.

Interventions that are included in this study (e.g. flexible structure and continuous monitoring of the programme) may be applicable to other programmes, however, discipline specific research is required to provide evidence on the most suitable and effective activities.

Further work at the discipline level could be focused on engaging students in helping to develop local nutrition policies (e.g. for central Birmingham) or in review and critical appraisal of the current local real life policies or in participating in the process of review for the policies that are advertised for consultation.

Conclusion

A package of ten new educational activities was introduced to the public health nutrition module aiming to improve students' engagement. Written and verbal feedback from students showed that they strongly believed that their overall engagement in classroom activities increased. Among the activities, the flexible structure of the module, continuous and regular post-it-note evaluation of the module and role play were the most favoured activities for enhancing student engagement. All criteria assessed in the module evaluation considerably improved compared with the previous year and as a result, the overall student satisfaction was enhanced considerably. These provide evidence that the trial could improve the students' learning experience.

The dimension of student engagement discussed in this trial (i.e. improving engagement in classroom activities) and its role in improving student learning experience has been known for many years (particularly for elementary and high school students), however often neglected or taken for granted for university students. In the conceptual framework of the students' engagement in HE (Higher Education Academy, 2010b), there is substantial emphasis on the students engagement in roles commonly considered 'extracurricular' to students; while improving learning experience of university students via enhancing their engagement in classroom activities is overlooked. Further work is required in this field.

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Tapping for success: A pilot study to explore if Emotional Freedom Techniques (EFT) can reduce anxiety and enhance academic performance in University students

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*Learning itself is an intrinsically emotional business
(Claxton, 1999, p15)*

Abstract

Emotional Freedom Technique (EFT), also known as tapping, is an emerging psychological intervention that has been used to treat a variety of conditions, including exam stress and public speaking anxiety. Participants were a convenience sample of 52, 3rd year Foundation Degree level students, undertaking a Research Methods Module. The module included an assessed presentation, which was known to generate anxiety among students. The students were given a 15 minute assignment workshop. They then received a 15 minute lecture introducing EFT and were guided through one round of EFT focussing on their anxiety of public speaking. The students were assessed using the Subjective Units of Distress (SUDS) and the Hospital Anxiety and Depression Scale (HADS) pre and post EFT. The students were instructed that they could continue to use EFT at any time to reduce their anxiety regarding their assessed presentation. Immediately following their presentation, the students were invited to take part in a brief face- to-face interview to identify those who used EFT to explore their use of and feelings about EFT and to identify those who had chosen not to use EFT and explore their reasons for not choosing to use it. Forty Six of the total sample of 52 students (88%) participated in the research. There was a significant reduction in SUDS ($p < 0.001$), HAD ($p = 0.003$) and HAD Anxiety Subscale ($p < 0.001$). There was no difference in the HAD Depression Subscale ($p = 0.67$). The qualitative data were analysed using a framework approach which revealed the following three themes: helpfulness of EFT in reducing anxiety and staying calm and focussed; Using other complementary therapy skills; and their reasons for not using EFT.

Despite the limitations of the study, the results suggest that EFT may be a useful addition to curricula for courses that include oral presentations and that using EFT to reduce presentation anxiety may enhance academic performance.

Introduction

A range of pedagogic, medical and psychological strategies have been used to enhance academic performance. Strategies include peer tutoring (Lidren & Meier, 1991), assistive technology (Goldius & Gotesman, 2010; Parent & Del Rio-Parent, 2008), identifying student achievement goals, student self efficacy and reducing class size (Fonollar et al., 2007). Some students with a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) have used to ADHD drugs to enhance academic performance, whereas others without a diagnosis of ADHD have taken these drugs illegally to enhance their performance (Murray et al, 2011). Fear of public speaking is the single most common fear and up to 75% of people suffer from it (Furmark, 2002; Pollard & Henderson, 1998). Many students report high level of public speaking anxiety levels around assessed presentations. While a slightly increased level of anxiety may enhance performance, too much anxiety can have a detrimental effect (Cherry, 2010).

Emotional Freedom Technique (EFT; Craig, 2011) is a gentle psychological intervention that can be easily taught and self-administered (Karatzias et al. 2011). Subjects gently tap with their fingertips on acupressure points on the head, torso and hands and relate this to the voicing of specific statements (Craig, 2011). Recent systematic reviews reveal that EFT is effective for a variety of psychological disorders including reducing presentation anxiety and test-taking anxiety and enhancing athletic performance (Boath et al., 2012a; Feinstein, 2012; Feinstein, 2008).

The emerging literature suggests that EFT is a feasible treatment for presentation and test anxiety in students. For example, Boath and colleagues (2012b) found that EFT significantly reduced presentation anxiety in University students. Sezgin and Ozgin (2009) investigated the effect of EFT and Progressive Muscular Relaxation (PMR) on test anxiety in Turkish students undertaking a University entrance exam and found that students scored higher on examinations post EFT. Benor and colleagues (2006) treated test anxiety in Canadian University students with EFT and found the EFT enhanced their performance and that these students also successfully transferred their EFT skills to other stressful areas of their lives. Schoninger (2004) used Thought Field Therapy (TFT; Callahan & Trubo, 2001), the precursor of EFT, to treat public speaking anxiety and found a significant reduction in anxiety, shyness, confusion, and physiological factors as well as increased poise and positive anticipation following one hour of TFT. In Australia, Jones and colleagues (2011) reported significant reductions in public speaking anxiety in a group of University students and lecturing staff randomised to receive EFT and concluded that EFT was a quick and effective treatment for public speaking anxiety.

However, to date none of the studies of presentation anxiety has linked the reduction in anxiety levels with enhancing academic performance and so this pilot study aimed to assess the impact on EFT on a cohort of students' public speaking anxiety and to assess whether EFT had an impact on their grades.

Methodology

A convenience sample of 3rd year students undertaking a Foundation Degree in complementary therapies were invited to participate in the project. Once written informed consent was obtained, the students were all given a 15 minute assignment lecture outlining the requirements for their assessed presentation. They were then asked to rate their anxiety levels using Subjective Units of Distress (SUDs; Wolpe, 1958) and the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). Higher scores on these scales mean higher levels of distress, anxiety and depression. Next, they received a 15 minute lecture introducing EFT, the theory behind it and the tapping points by TS who is a fully qualified and highly experienced Advanced EFT practitioner and trainer.

Following this, they were guided through one round of EFT, focussing on their fear of public speaking and being assessed, by TS. The EFT protocol used followed the 'basic recipe' (Craig, 2011) and the one round included tapping on 12 acupressure points on the head, torso and hand, while tuning in to their anxiety about their presentation and being assessed. Following the introduction, where the students familiarised themselves with the tapping points, they were then guided through one full round of EFT, where they focussed on their own anxiety. The students were asked to complete the SUDS and the HADS scales immediately following this. This was approximately 30 minutes since they completed the previous outcome measures.

The students were instructed that they could continue to use EFT on themselves any time they wished during the intervening 8 weeks between the EFT training session and their assessed presentation. A reminder email was sent out one week prior to their presentation, with an attachment outlining the tapping points and reminding them about using EFT if they desired. Immediately after giving their presentation, the students were invited to take part in a brief face to face interview in which they were asked if they had used EFT prior to their presentation, how effective they felt it had been, if they had used anything else to reduce their anxiety and if they would use EFT in future. Responses were captured verbatim in writing.

Data analysis

The quantitative data were entered into SPSS. Data were screened for normality using the Shapiro-Wilk test. SUDs and total HAD were found to be normal and were analysed using the paired t-test. Anxiety and depression data were found to be non-normally distributed and therefore the non-parametric equivalent, the Wilcoxon Signed Rank Test was employed. Before and after mean scores (SUDS and total HADS) were compared using paired *t*-tests and the

anxiety and depression subscale were compared using the Wilcoxon Signed Rank Test. Where P-values were <0.05, the differences were considered statistically significant.

The qualitative data was analysed using thematic framework analysis to identify emergent patterns and themes (Ritchie and Spencer, 1994). Interview transcripts were read independently by LB and AC who devised an index of key concepts and themes drawing on *a priori* issues linked to the study objectives as well as issues raised by the students. LB and AC agreed on a final framework and subsequently data from the transcripts were applied systematically to the framework followed by mapping and interpretation.

Ethical approval

Ethical approval was obtained from Staffordshire University Research Ethics Committee.

Results

Fifty two 3rd year students were invited to participate in the project and 46 (88%) agreed and gave written informed consent. All students were female and aged between 25 and 55 (mean = 37.5). Many students were 'returning to learning' and studying for a career change. SUDS data and the Hospital Anxiety and Depression Scale (HADS) scores were collected immediately before and immediately after the EFT training.

A total of 46 complementary therapy students participated in the research. Table 1 shows the students' anxiety scores pre and post EFT. It demonstrated that the means for the SUDS, the Anxiety Subscale of the HADS and the total HADS were significantly lower after the EFT intervention. However, there was no significant difference in the depression subscale of the HADS.

Measure	Time	Mean (SD)	P-value	Significant?
SUDS	Before After	5.68 (2.79) 3.80 (2.93)	<0.001	Yes
Anxiety Subscale	Before After	10.22 (4.78) 7.83 (5.17)	<0.001	Yes
Depression Subscale	Before After	4.81 (4.45) 4.56 (4.40)	0.67	No
Total HADS	Before After	14.97 (8.24) 12.44 (8.46)	0.003	Yes

Table 1. Results of inferential analysis pre and post EFT

Students in the study were followed-up, to see whether there was a difference in grades points achieved for the presentation, between those in the cohort who had used EFT prior to their presentation and those who had not.

“Marks” were expressed as assignment grades, based on Staffordshire University’s grading system at the time of the study. In this system, grades for Foundation Degrees are awarded between 1-15, where 1-3 represents a fail; 4-6 represents third class, 7-9 is a lower second, 10-12 is an upper second and 13-15 is First class.

Follow-up data were received for a total of 46 students, 19 of whom had used EFT for their presentation anxiety and 27 who had not. Data were found to be non-normal using the Shapiro-Wilk test; nonparametric statistical tests were therefore used.

Students who had used EFT attained significantly higher grades (mean 10.63, SD=2.872, range 4-14) than those who had not (mean 7.70, SD=2.771, range 4-13). Means were compared using an Independent-samples Mann-Whitney U test, which was significant ($p < 0.01$).

The qualitative data produced a rich insight about the student’s experience of EFT. The students gave positive feedback about their experience of EFT and these were characterised by

three overarching themes: theme 1 relating to the effectiveness of EFT in reducing their anxiety and helping them to remain calm and focused; a second theme relating to their use of other complementary approaches and a final theme outline their reasons for not using EFT.

Quotes are presented to illustrate the themes. Names have been changed to maintain confidentiality.

Theme 1: Helpfulness of EFT in reducing anxiety and staying calm and focussed

It was evident from the quotes that EFT had a calming effect on students which helped to reduce their pre-presentation anxiety and helped to keep them calm and focussed, as illustrated by the following data extracts:

Yes. I did it [EFT] in the car. It helped. I didn't sleep well last night – got a dry mouth and feel shaky, but not as bad as I usually am when doing a presentation. My legs are normally going, but they are alright today. It definitely took the edge off. I would definitely use it again. Used it for helping me to sleep and will use it again in future. (Kelly)

Yes I usually go blank, I forget. And I used it to keep me focussed today. I also used it when I first sat down and looked at the assignment. It did actually work. (Jacky)

Yes, I done it before I came in and yesterday. It really helped me actually. It helped me to calm down. Helped my emotions – my anxiety, nervousness. Helped me to calm down really. It took the edge off the presentation (Roberta)

have done it a few times for other things, for example when I am feeling a little bit worried. ...It was something to do while waiting outside. Tapped in the corridor! (Anne)

Theme two: Using other complementary therapy skills

The students were undertaking a Foundation Degree in Complementary therapy and had a range of complementary skills, including aromatherapy and reiki to reduce their anxiety and many made good use of these instead of EFT to help them relax and reduce their anxiety prior to their presentation:

Not used EFT, but did visualisation and used hypnotherapy on myself. (Ruby)

No, used reiki and yoga techniques and my own aroma treatment. (Georgia)

No, not used it today, but used calming oils. I have been using it and found it really helpful.

Used it to help when I meet people and to have my photo taken. (Anita)

Theme three: Reasons for not using EFT

Five students indicated that they although they had used EFT successfully for anxiety following the session, they had not carried out any EFT immediately prior to the presentation.

Reasons for not using EFT included forgetting, feeling silly tapping it in public, uncertainty that they were doing it right and not being able to tap due to obsessive compulsive disorder (OCD):

Tapped in the morning and before driving in to do the presentation and it helped bring down my anxiety levels, but I didn't tap immediately before the presentation, as I was in a busy corridor and felt daft doing it. That would have really helped. (Cathy)

I did not use it on the day of the presentation as I was not sure I was doing it 'right' (Lynne)

I struggled with EFT as I have OCD and I kept counting the number of taps, rather than focussing on my anxiety. (Lee)

Two students, who forgot to use EFT, reported their regret at not using it:

No. Didn't. I should have [used EFT]... I think if I'd used it, it would have been a good idea. I would have done better. Can't believe I didn't actually. (Amanda)

Yes, used it in the past, but not today. I didn't even think about it. That would have been a good idea! I just forgot I was in such a panic. Have used it for headaches and stuff in the past and it worked. (Alison)

Discussion

This small study explored the feasibility of using group EFT in reducing presentation anxiety in University students and enhancing academic performance. The results suggest that group EFT is an effective intervention in reducing presentation anxiety as measured using SUDS and HADS and that EFT can be used to reduce anxiety and enhance performance. Indeed, the anxiety reducing effects of EFT reported in this study are consistent with the findings of previous research that has used EFT to reduce exam stress and presentation anxiety in high school and university students (Boath et al., 2012b; Schoninger, 2004; Sezgin & Ozgin, 2009; Feinstein 2008).

The qualitative data analysis revealed three overarching themes. Students on the whole felt that EFT was very useful in reducing their presentation anxiety.

There was no significant difference in pre and post-depression scores on the HAD depression subscale. This is in line with previous research (Boath et al., 2012b) and reflects the focused nature of EFT and that the tapping was aimed at reducing anxiety and not depression.

Eight is the cut-off point for 'caseness' for both the anxiety and depression subscales of the HAD. A score above 8 on either subscale suggests a clinical level of depression or anxiety. The depression scores pre and post EFT were substantially below 8, suggesting that students were not depressed. However, the mean anxiety scores pre EFT of 10.22 were well over the clinical cut-off point for anxiety and this highlights the high level of anxiety students felt in relation to their presentation. The mean anxiety levels following the EFT intervention reduced to 7.83, which suggests that their anxiety had reduced to a non-clinical level. It is feasible that a further round of EFT may have resulted in even greater reductions in anxiety levels (Craig, 2011) and future research should explore this.

In line with other EFT research, there were no ethical or safety issues identified during the study. Only one student with obsessive compulsive disorder (OCD) highlighted that she could not perform EFT properly as her OCD involved counting and meant that she concentrated on counting the number of taps and not her anxiety. This may be a limitation of EFT, however the literature suggests that EFT can be a useful treatment for OCD and offers solutions to this issue including varying the order and number of tapping points (Moran, 2012; Bressler, 2011). Research has questioned the validity of using self-report scales alone (Carrell & Williamson, 1996 cited in Jones). The HADS and SUDS scales were not repeated on the day of their presentation. Further research is currently underway that will do this. However the qualitative results suggest that the students who used the EFT on the day of their presentation found it extremely helpful. Although the results suggest that EFT is an effective group treatment for presentation anxiety and to enhance performance, these are tentative due to the limitations of the study outlined below.

The use of a convenience sample of complementary therapy students may have meant that many were more inclined towards the use of a psychological intervention than students studying for other courses. The authors have carried out a similar intervention with Sport Science students and many of them were initially very sceptical. Indeed the authors' clinical experience suggests that many people find the idea of EFT absurd, let alone the idea that this can also have an impact on their psychology and other research supports this assertion (Burkeman, 2007; Gaudiano & Herbert, 2000).

Public speaking anxiety is often reported to be greater in women than in men (Furmark, 2002; Pollard & Henderson, 1998). The students were all women and so further research is currently underway with a cohort of male and female students to assess if there is a gender difference.

The present study did not obtain demographic information such as age, ethnicity or disability. Future research will include these variables. There was a long period (8 weeks) between the EFT training session and the presentation. Students were sent a reminder email. However they were not directly instructed to continue tapping, but were told that they could use EFT if they wished prior to their presentation. Although 8 weeks seems long other EFT research has demonstrated that a single brief EFT session is effective and that the results are maintained for up to 6 months when EFT is used for weight loss or phobias (Stapleton et al., 2011; Wells et al., 2003). However, it may be that the acute, situational nature of presentation anxiety, requires further intervention.

This study did not take into account factors such as personality and learning styles that have been shown to play significant roles in influencing academic achievement (Komarraju et al., 2011; Richardson et al., 2012). Furthermore, the use of learning and study skills in enhancing performance (Hamblet, 2012) was not addressed. Future research could consider exploring these traits.

Overall the students who used EFT had a mean grade of 10.73, equating to an upper second, whereas those who did not use EFT had a mean grade of 7.7, which equates to a lower second. However, students' prior academic performance in presentations was not assessed, as previous presentations had been group presentations and this was the only individual presentation they had during their course. It is therefore impossible to conclude that EFT enhanced their performance, as it may be that students who used EFT were less anxious, or were simply more adept at using mechanisms at their disposal to enhance their performance. Future research should compare outcome with marks on previous presentations.

The sample size in the current study was small ($n=46$), they were all women and there was no control group. The question therefore arises as to whether the findings from this small select group of female university complementary therapy students could generalise to a wider population of students. In order to explore this an RCT of EFT versus a lecture on presentation skills using a larger cohort of male and female students doing a sports science degree is currently underway. (Boath et al., ongoing).

27 out of the 46 students (59%) did not carry out any further EFT and this is higher than rates of 'dropout' in other studies that have used EFT (Karatzias et al 2011(39%); Brattberg, 2008 (40%). This higher rate may be due to the fact that this cohort of complementary therapy students had other complementary skills, such as aromatherapy that they could call on to reduce their anxiety, as highlighted in the qualitative analysis. The most common reason for not using EFT was that they had forgotten about it, or had forgotten how to do it. Many of those who forgot also added that they wished that they had remembered and felt that their performance would have been enhanced if they had used it. For the 19 students who did

continue tapping, the frequency and duration of tapping was not assessed. Future research could employ a diary method to record this and also explore the duration of treatment effects.

Although there was an immediate effect on SUDS and the anxiety subscale, the evidence for long term effects was not addressed in this study as the HADS and SUDS were not repeated on the day of the presentation. Future research should consider assessing students immediately prior to and after their presentation.

The HADS assesses feelings of depression and anxiety over the past week. A scale such as the Spielberger State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983), that has been used in other anxiety research, and distinguishes between the temporary condition of 'state anxiety' and the more general, long-standing 'trait anxiety' may have been a more appropriate choice of outcome measure. The scales used were both self-report and although the results highlighted high levels of anxiety in both groups, the sample was not therefore derived from a clinically diagnosed anxious population.

The HAD and SUDS scales do not address presentation anxiety per se and so scales designed to assess apprehension, confidence in public speaking and communication competence such as Personal Report of Communication Apprehension, Personal Report of Confidence as a Speaker and Self-Perceived Communication Competence (Hancock et al., 2010) would be valuable future outcome measures. The outcome measures used were both self-report and although the results highlighted high levels of anxiety in the students, the sample was not derived from a clinically diagnosed anxious population. Future research would benefit from the use of a clinician assessed scale, such as the Structured Clinical Interview for DSM Disorders.

Research has also shown that EFT is effective with large groups of people (Rowe, 2005) and so has the potential to offer very efficient and cost effective interventions to student groups. However, it would be interesting to explore if individual sessions with students were more effective. The lead researcher (EB) was not blind to treatment group. The researchers who collected the data and interviewed the students (EB and AC) were also the module lead and award leader for the group and were therefore known to the students. The students were aware that the authors were highly experienced advanced EFT practitioners and that all have a strong allegiance to EFT. This may have influenced students' responses via verbal or non-verbal cues and may well have strengthened the 'client-therapist' relationship which is known to have a positive effect on treatment outcome.

Conclusion

Despite the limitations of the study, the results suggest a potential role for EFT as a group intervention in reducing presentation anxiety and potentially enhancing academic performance in University students. In addition, given that it takes a very short time to train students to use

EFT, and that once learned, EFT can be very effectively self-administered suggests that EFT may be a useful addition to curricula for courses that include oral presentations. Furthermore, EFT can easily be transferred to other aspects of student life, for example exam stress and so could be used to reduce anxiety around exams and potentially enhance exam performance. Further research is planned to address this.

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Conflict of interest

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Poster Presentations, Academic-lite! The LLB Experience.

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Abstract

The use of poster presentation assessments has long been accepted practice in medical and scientific teaching in Higher Education. There seems to be however a feeling that the use of poster presentations as part of a summative assessment for a Law degree lacks academic gravitas and the rigour of more traditional forms of assessment. This paper argues that the process of researching, planning and presenting a poster presentation on an area of criminal law provided a student cohort with a challenging yet rewarding assessment opportunity. Students taking the assessment provided feedback to suggest a strong sense of self efficacy and creativity during the preparation and delivery process. The paper examined the method of assessment for sixty undergraduate students enrolled on an access year that formed part of a four year LLB (Hons) award. The students were required to produce an academic poster and present for fifteen minutes to two assessors. The feedback from this assessment suggested that the students themselves considered the assessment to be relevant and provided a realistic flavour of the skills needed in working practice.

Introduction

This paper is a small piece of qualitative work that seeks to add to the scholarly literature about the use of poster presentations for the assessment of students on an undergraduate law degree. The authors teach law and socio - legal modules in a 'New University' located in the West Midlands. This study's fundamental research question revolves around the suitability of using a poster presentation assessment to assess students studying a criminal law module. The students involved in the study were enrolled on a four year award, with the first year serving as a preparatory access year prior to a transition to the traditional first year of the LLB. For the purposes of this study the access year is referred to as the 'Foundation' year but this is not to be confused with 'Foundation Degrees' that are focused on work based learning. The study is intended to support and further develop the authors' practice not only to provide a detailed analysis of the teaching and supporting learning on the award but to make a contribution nationally to the debate on assessments for law modules.

The paper initially will examine the literature to develop an argument that posters and poster presentations form a significant part of the post graduate and conference milieu within legal academia. However the authors argue that within undergraduate assessments for the qualifying law degree the 'poster' remains on the fringes. The paper draws on some of the recent work of English (2015), Moppett (2012) and Logan *et al.* (2015). A reflection on ethical issues will lead to the consideration of the study's ontological and epistemological position. The paper provides some exploration of the chosen research strategy before focusing on what in essence is an interpretative piece of work. The methodology chosen by the authors takes a qualitative approach embracing the relevance and importance of human subjectivity (Yin, 2014), in this case the 2014/15 Foundation year cohort.

Background and literature review

The use of a poster presentation in Higher Education undergraduate assessment is not a new phenomenon. Chute and Bank (1983) introduced poster presentations with their psychology students. They reported that their students had a very positive attitude to this activity. Chute and Bank (1983) also included a question on the end of semester examination paper which asked students to summarise the content of a poster presentation other than their own and this proved to be a popular question (Chute and Bank, 1983). Furthermore the academic disciplines of nursing, medicine and the sciences included poster presentations as part of their menu of assessments throughout the nineties leading to their developed and sophisticated use at the present time (Kennedy and Laing, 1985; Sorensen and Boland, 1991; Fowles, 1992 and Logan *et al.* 2015). Two academics from the United Kingdom, Berry and Huston (1995) carried out a thorough review of the literature on the use of poster presentations as early as 1995. The latter introduced poster sessions into their undergraduate mathematical modelling courses and argued that the process provided students with an interesting and challenging task and '*it has caused us to devise a scheme for the assessment of posters*' (Berry and Houston, 1995, p.21).

Berry and Houston (1995) found that the common themes reported by the academics who used the poster presentation, centered around the fundamental skills of creativity, communication and deep learning. Handron (1994) identified the poster presentation as an experiential learning activity that stimulated curiosity and interest, encouraged exploration and integration of concepts and provided the student with a novel way of demonstrating understanding. Handron (1994) who at the time was a professor of nursing arguably provides a fundamental definition of the academic poster presentation rationale and a number of scholars cite her work in the research that followed (Moneyham *et al.* 1996; Bracher *et al.* 1998; Taylor *et al.* 2003).

Akister and Kim (1998) theorised about the use of poster presentations as an alternative to written assignments for assessing students studying social work. Their findings suggested positive responses by both students and instructors. Akister a 'Reader in Social Work' has researched and published scholarly papers about learning and teaching including methods of assessment for social work students. She has been a proponent of the use of poster presentations for over a decade and took the position that 'the poster' offers a rigorous assessment of taught material that also allowed the assessor to probe and enter into dialogue with the presenting student (Akister *et al.* 2000; Akister, 2009). Summers (2005) alluded to how poster presentations can be used for both formative and summative assessments and provided some critique within her own research that was based on teaching children's nurses to communicate with children and their families. Summers (2005, p.24) asserted that the use of the poster assessment was not without its weaknesses and developed critical analysis over issues such as validity and reliability. Her findings also suggested the notion that the use of poster presentations demonstrated advanced thinking, such as synthesis, which was often not evident in tradition essays and coursework.

Walker (2005) found that while students found the poster option hard work, they seem to invest the work with a large amount of creative energy and individual flair often missing from assignment production. Taylor *et al.* (2003), carried out some quantitative research on the effectiveness of using poster presentations from 155 pharmacy students. The findings in this study indicated that a poster presentation was an effective way to promote communication, social interaction, self-learning, critical thinking, and professionalism. Overall, 80% of the students believed the program was useful to their future professional career, and 72% agreed their experience with this project was excellent (Taylor *et al.* 2003, p.12). The authors pointed out that the results of their study needed to be interpreted with caution due to its limitations. Taylor *et al.* (2003) explain that a control group was not used because it was not their intention to compare the effectiveness of poster with traditional assessments. Writing for the Higher Education Funding Council for England (HEFCE), Akister (2009) described how academic posters offered a visual presentation of a piece of work and encouraged dialogue about the work. She highlighted the opportunity for direct discussion and exchange of ideas with the presenter. She also elaborated on the advantages of assessors being able to provide prompt feedback to the presenter. Walker (2005) alluded to the issue of plagiarism and argued

that the potential for plagiarism was dramatically reduced. He pointed out that the use of internet assignment sales had seriously compromised academic credibility; there was a reduced prospect of copying another student's poster because of their unique characteristics (Walker, 2005, p.287). Miller (2002) claimed potentially, the assessment process gave a much clearer idea of the depth of students' understanding; there was little scope for plagiarism.

McNamara *et al.* (2010) and Moppett (2012) focused more closely on the use of poster presentations for law students. McNamara *et al.* (2010) provided a detailed literature review on the assessment criteria for poster presentations. The authors found that the poster presentations on business and law modules provided an effective and authentic approach to assessing learning outcomes. Posters encouraged reflection and integration of theory and practice which are desirable outcomes. McNamara *et al.* (2010) recommended that criterion-referenced assessment should be used to assess the posters providing summative criteria broadly based on content, research and the aesthetic component. Moppett (2012) a professor of legal writing and legal practice skills, wrote primarily for an academic audience in her work on the use of poster presentations in the study of law. Moppett (2012) also posited that poster presentations would particularly appeal to visual learners who learn best through pictures and diagrams rather than through text. Her argument complemented the notion by Walker's (2005, p.286) earlier work that poster assessments could offer an alternative that did not disadvantage those students who found scholarly writing very difficult or who had specific learning difficulties such as dyslexia. It is important to consider that many of the academic disciplines that were quick to adopt poster presentations were based on professional competencies such as nurses and pharmacists who were not required to engage in writing long academic narratives in their professional capacities (Walker, 2005; Taylor *et al.* 2003). Classic academic literature deals with the concept of the 'learned professions' developed during the Middle Ages that emphasised theology, law and medicine (Wade 1960). Taken together, the arguments in the literature suggested that if theology was replaced by science the 'learned professions' have traditionally shown a propensity to embrace practical teaching and learning techniques; with science and medicine leading the way with poster presentations (Wade 1960).

The Quality Assurance Agency for Higher Education (QAA) (2012) connoted the preference for using more than one assessment method unless there was a compelling reason to only use one. Henry (2012) examined the changing nature of assessments in UK universities and identified that more and more universities were using non – traditional assessment methods in preference to written exams. English (2015) and Logan *et al.* (2015) provide a contemporary addition to the literature. Maharg (2015) cited English (2015) who wrote as a Principal Law Lecturer and learning and teaching advisor, providing a critique of the use of poster presentations on the undergraduate and postgraduate law programmes. She made the observation that this form of assessment was novel to law educators and students alike, so students needed very clear guidance on expectations. English (2015) considered issues such as students concentrating on the visual impact rather than content.

In the study by McNamara *et al.*, (2010) poster presentations were well received by lawyers, other legal practitioners and academics from the Faculty of Law. Rigg (2013) wrote in his capacity of Senior Lecturer in Law at Manchester Metropolitan University, about the lack of emphasis placed by traditional assessment methods on oral communication skills. He argued that surveys of employers (Archer and Davison, 2008; Lowden *et al.* 2011), showed oral communication to be one of the most highly valued employability skills. Rigg (2013, p.411) asserted that 'law graduates are expected to be good at written and oral communication, but are only certain to be formally examined on their written communication skills'.

A review of the literature has established that there has been a consistent use of poster presentations in Higher Education for over thirty years (Chute and Bank, 1983; Akister *et al.* 2000; English, 2015). The literature indicated that posters were primarily used in medicine, nursing and the sciences. There was very little research conducted about the use of poster assessments with law students and this demonstrated a genuine gap in the literature. The dearth of research in this area prompted the authors to examine the relevance of this method of assessment as an innovative means of assessing law students (McNamara *et al.* 2010 and Moppett, 2012). Findings in the literature tended to indicate that overall the use of the poster presentation was a valid and rigorous means of assessing undergraduate students (Summers, 2005). The next section of the paper will deal with how the authors investigated the question about suitability of a poster presentation assessment used for a Law Degree with a Foundation Year, the theme of this paper.

Method

This piece of research will take a pragmatic approach starting with a research question about the suitability and effectiveness of using poster presentations for law students (Miles *et al.*, 2014). Denzin and Lincoln (2011, p.12) discussed some of the philosophical beliefs about ontology and the nature of being; epistemology or the relationship between the inquirer and the known and methodology or the attainment of knowledge of the world. Punch and Oancea (2014) wrote for educational researchers and provided a discourse on empirical research. The authors chose an epistemological stance that regarded the experiences of the students as the basis or the source of knowledge in this case and the observation of the interaction between students and their assessment. In this study the interaction of tutors, students and assessments all interweaved with the use of posters. The key theme highlighted by Punch and Oancea (2014, p.3) is that of observable information or direct experience of the suitability of this process.

It is essential to be able to locate the research paradigm within which the research sits. In terms of an epistemological position, this research can be described as an interpretative piece of work. Methodologically the research takes a qualitative approach with the recognition of the

relevance of human subjectivity (Bell and Waters, 2014). The exploratory nature of the question will influence the research methods used to collect data for this small study. The authors chose using a qualitative method of semi structured face to face interviews in order to answer the research objectives. The study was attempting to answer questions about learners' experience and this was deemed suitable to conduct a qualitative piece of work because the study is interested in the idea of understanding educational phenomena (Denscombe, 2014). Tutors asked for volunteers to take part in a small scale semi structured interview based on their experience with the poster presentation. Six students took part in the study, completed consent forms and were informed of the reason for the study. All participants had received their final grade and there were no ethical issues such as a potential harm or anonymity (Bell, 2010). The interviews were digitally recorded, transcribed and a thematic analysis was carried out to identify and code central key themes and patterns of narrative that emerged from the interviews (Bryman, 2012; Creswell, 2013).

Punch (2014, p.160) cited Miles and Huberman (1994, p.27) stating that sampling is just as important in qualitative research as it is in quantitative research. Punch (2014) went on to assert that the sampling plan should line up with the purposes and the result questions of the study. This study used a 'non-probability' purposive sample that consisted of six volunteers from a population of 63 students. The researchers knew that the participants would be able to provide the best account of their experiences of preparing for and taking part in the poster assessment. Curtis *et al.* (2014) argued that interpretivist research approaches do not tend to focus on bias in the same way as positivists. These authors claimed that within the interpretivist method researcher bias is inevitable. This strategy sought to ascertain whether the reported experiences of the law students corresponded with previous research found in other academic disciplines (Summers, 2005; McNamara *et al.* (2010). The authors in this paper accept the limitations that arise from the use of 'volunteers'; there could be an argument that the participants who volunteered to take part may be different to the rest of the cohort. It might be asserted that the participants are not representative of the population or were more self-motivated in some way hence the propensity for volunteering. There were no incentives offered to the students and the whole population had received their grade prior to the study.

The British Educational Research Association (BERA) (2011) provided clear ethical guidelines for educational research. Hammersley and Traianou (2012) writing in academic collaboration with BERA addressed the research community as a whole in analysing the importance of ethical considerations in all research. The authors reaffirmed the condition in which participants should understand and agree to their participation in a piece of research without duress prior to the commencement of any project (Brooks *et al.*, 2014).

Comer (2009) discussed concerns over potential ethical dilemmas in educational research. She warned of the potential pitfalls for educators of conducting research using their own students. Comer (2009, p.101) alluded to actual or perceived student coercion, lack of confidentiality, and

the absence of meaningful informed consent. She examined the area deontology and explored issues around the situation when the researcher is also the participant's instructor. In this study the researchers took steps to minimise the potential for abuse of power by providing complete and accurate information about the purpose of study; obtaining informed consent; providing the option to opt out of the study and ensuring anonymity (Curtis *et al.* 2014).

The poster presentation assessment

The assessment took place in the twelfth week of the first semester for the 2014/15 foundation year students studying a four year LLB award. The 'foundation year' element was designed for people who wanted to study a law degree at university but who left school without the usual qualifications, such as 'A' levels or GCSEs. The foundation year also caters for people who are changing career and have been away from education for a number of years (Ooms *et al.* 2012; Leese, 2010; Winter and Dismore, 2010).

The cohort consisted of 63 students studying on a criminal law module. The students were informed at the commencement of the module that the assessment for semester one would consist of the creation and presentation of a poster based on a choice of one of the subjects below.

-
- Explain and discuss the non - fatal offences against the person.
 - Explain and discuss murder and the partial defences of diminished responsibility and loss of control.
 - Explain and discuss constructive manslaughter and gross negligence manslaughter.

Table 1. The three assessment questions available to the students

The choices for the assessment titles were put up on the module virtual learning environment (VLE) Blackboard at the beginning of the semester. Although the students received the relevant teaching throughout the semester, the assessment question was always available for perusal. The teaching and learning support followed the 'constructive alignment' model espoused by Biggs and Tang (2011). Teaching was focused on what the student did in the weekly two hour workshop sessions, which was to construct meaning through relevant learning activities. The 'alignment' aspect referred to what the tutor did, which was to set up a learning environment that supported the learning activities appropriate to achieving the desired learning outcomes (Biggs and Tang, 2011). The students received a weekly one hour lecture based on an aspect of criminal law and this was followed by a two hour workshop during the same week. The students were given the opportunity to research and present their findings either in small groups or individually. In the weeks prior to the assessment the students received feedback on formative assessments based on presentations skills and oral communication.

The students were asked to produce posters in A0, A1 or A2 format and limited to five hundred words. Tutors provided sessions on design, use of fonts and explained what criteria would be used to mark the assessment. The criteria required a full bibliography to be displayed as a core feature on the poster itself. The summative assessment took place over one week with students being allocated a fifteen minute slot in which they would present their poster in front of two tutors. The students were required to explain the legal theory concerning the poster's contents and answer some questions based on the case law referred to in the poster.

Findings and Discussion

This study was based on a qualitative piece of work that examined key themes that emerged from semi structured interviews with law students who took a poster presentation assessment based on criminal law. The key points that emerged from the literature review tended to be confirmed in this study. The findings confirmed the arguments contained in the literature by researchers who conducted similar research from different academic disciplines (Chute and Bank, 1983; Taylor *et al.* 2003; Akister 2009).

The data in the study was coded manually by highlighting the relevant passages of text. Table Two below shows the key themes to emerge. The themes have been thematically organised, with headings that reflect the language used by the participants.

Research

For the preparation of my presentation, I researched legalisation, cases and different legal principles for murder and diminished responsibility. RESEARCH

I did a lot of reading around my topics to ensure that I had a good comprehension of everything I was putting onto the poster. RESEARCH

I used a number of books to help me with my presentation which were all a great help when it came to construct the poster. RESEARCH

Publishing

At first I found that constructing the poster to be very difficult and I didn't particularly enjoy it at first. I started to construct it on Microsoft publisher and couldn't grasp what was required. PUBLISHING

Initially I tried to create my poster on Microsoft Word which was challenging as I had trouble with the page orientation and size. Then, one of my friends suggested to use Microsoft Publisher which was relatively easy to use and it enabled me to create an incredible poster. PUBLISHING

As my poster was A0 size, it was difficult to find a place to print, otherwise I had no other problems in relation to the poster itself. In my opinion, the cost of printing the poster was also reasonable.	PUBLISHING
Self-efficacy	
I feel that I put a lot of effort and hard work into the poster and I was very proud of the finishing product.	SELF EFFICACY
On the day of the presentation I was nervous to say the least, not because I didn't know what to do or I hadn't done enough research , for the reason that I didn't want to let myself down after all the hard work I had put into the poster	SELF EFFICACY
I did not enjoy presenting because of nerves but then again once finished I couldn't be more proud of myself.	SELF EFFICACY
Poster presentation was a unique way to do an assessment and I thoroughly enjoyed it as it helped me to gain valuable skills such as communication skills and presentation skills. It also helped me to build up my confidence.	SELF EFFICACY

Table 2. Key themes revealed in the interviews

Curtis *et al* (2014) explain the importance of validity and reliability of qualitative studies. The findings in this study tended to confirm previous findings and arguably the same findings would emerge if the study was replicated (Curtis *et al.* 2014, p.172). The thematic analysis revealed three key themes, firstly evidence of reading and research, secondly the sense of overcoming nerves and finally getting to grips with producing the actual poster and thirdly a sense of self efficacy and pride in creativity. All of the respondents alluded to the idea that the whole process was challenging but rewarding and provided them with a sense of realism. The themes identified in this study link back to the literature resonating strongly with the findings of Akister *et al.* (2000).

The key overarching theme drawn out of the assessment process and subsequent study was one of dispelling the myth that 'poster presentations' are not sufficiently academic for law students (Summers, 2005). The themes that emerged from this study reaffirmed the findings of previous authors such as Walker (2005, p.287) who found that social work students reported that their poster presentation option was harder than the traditional written assignment. These respondents also reported satisfaction and felt that the assessment method enhanced their learning of the subject.

Conclusion

This paper was based on the study of a small scale piece of qualitative work that looked at the suitability of a poster presentation to assess learning on the first year of an LLB award. Students taking the assessment were completing the first semester module on criminal law on a four year award. A small number of students were interviewed and asked to reflect on their experience of planning, preparing and presenting their poster in a fifteen minute assessment. The findings from this small study go some way to support the argument that the use of the 'poster presentation' as a form of summative assessment for law students is a rigorous academic method of testing key skills and meeting learning outcomes. At the moment there seems to be a tendency for legal academics to rely on more traditional forms of assessments in spite of the fact that colleagues in medicine, nursing and the sciences, described traditionally as the 'learned professions', have embraced and developed this assessment method considerably. There is a lack of research in this particular discipline and further work needs to be carried out in relation to the use of the assessment of poster presentations with students studying on traditional first, second and third year modules. There are clearly benefits to allowing students to develop a variety of skills sets including the increase in confidence and self-efficacy that was revealed in this study.

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An innovative approach in supervising undergraduate projects within dietetics and human nutrition courses.

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Abstract

We are writing to report an innovative approach that we have adopted for supervising undergraduate research projects within the BSc Nutrition and Dietetics programmes, and to suggest this approach to other colleagues in this discipline. This is based on our experience in investigating Diet, Lifestyle and Health (DLH) of University Students using a collaborative approach. To our knowledge, this collaborative approach including the group supervising of final year undergraduate students is new in the field of Nutrition and Dietetics.

Key Words: Research supervision, Diet, Lifestyle and Health, Collaborative approach

Introduction

The UK National Diet and Nutrition Survey (NDNS) has identified that the youngest adults (i.e. aged 19-24 years) consumed larger quantities of high calorie, high fat foods, and fewer portions of fruits and vegetables than other adult categories. This indicated British young adults are vulnerable to adhering to obesogenic diet and lifestyle, and potentially inducing micronutrient malnutrition (Hoare et al., 2004).

To date, there exists limited comprehensive research and baseline observational data on the DLH of university students in the UK. Previously within our departments, there have been several final year undergraduate research projects typically assessing a single dimension of DLH variables amongst university students (e.g. dietary fat consumption, body composition, alcohol intake). However, due to limited resources, time constraints and the overall undergraduate nature of these studies, they did not construct a coherent conclusive picture of DLH of the studied population. Students would usually have prioritised the 'demonstration of meeting the learning outcomes' of the final year research module (e.g. focusing on the methodology), to finding the answer for the research question. The learning outcomes of the final year undergraduate research module were to demonstrate the skills required for an independent research practitioner to be able to design research, carry out the study, analyse the results, disseminate the findings and deal with the practicalities of conducting the research project.

The collaborative research project entitled "The Diet, Lifestyle and Health of University Students" investigates the general lifestyle and nutritional status (anthropometrical measures and dietary habits) of students of university students. The research team initially comprised of two senior lecturers in human nutrition and dietetics together with several final year undergraduate students of dietetics, nutrition and health who were working together to achieve the aims and objectives of the research collectively and individually.

The research project is intended to run over four yearly phases. Phase one of the research project (delivered in 2009-10), was comprised of 8 final-year university students of Coventry University (5 students from BSc Health & Lifestyle Management, and 3 from BSc Dietetics), who voluntarily joined the project, contributed to the design and resource development, data collection, and data analysis of the study. The second phase of the project (delivered in 2010-2011), comprised of 6 final-year university students (2 from BSc Health & Lifestyle Management and 4 from BSc Dietetics) who amended the questionnaire to make it more understandable, and also continued with data collection and analysis of the project. The third phase of this project is currently on-going, as intra-university collaboration and the investigators are 6 final year nutrition students from Liverpool Hope University, 5 final year dietetics students from Coventry University and 4 final year dietetics students from London Metropolitan University, who are supervised by three senior lecturers in the field. The supervisors work together, share

resources, and help each other (e.g. in planning and obtaining ethical approval), but supervise their own local students.

When the idea for this project was originally generated, it was offered to the students during the induction of the final year project module. Students who were interested in this collaborative research approach joined the research team voluntarily. Weekly meetings were held on a regular basis, and included standard minute taking, problem solving, planning for action, and research workshops (e.g. formulating research questions, anthropometry, interview skill training, data management, dietary analysis and statistical software training).

Students were guided to generate their individual research questions, and develop a comprehensive semi-structured interview in accordance with their research question. Subsequently, supervisors accumulated all the individual questionnaires, producing an extensive interview-style questionnaire that included: a food frequency questionnaire (FFQ), a diet history, and open/closed questions regarding DLH of university students.

The interview form was piloted in a sub-sample excluded from the sample population, and subsequently modified for improvement. The dietary assessment method was validated against a 7-day weighed dietary record (as previously reported by Gibson, 2005) in a sub-group of the population. Research students were thoroughly trained on how to conduct the interview efficiently and competently. They were also trained on how to precisely and accurately measure anthropometric indices (e.g. weight, height, waist circumference, body composition), and analyse dietary intake through dietary assessment software.

On initiating the study design, all research students recruited, measured and interviewed other university students as participants, completed the entire interview form for each participant, and analysed the diet history, food frequency questionnaire and 7-day weighed dietary record for the participants they interviewed. Then they added these information to the general spread sheet of the research project. However, they only analysed the raw data corresponding to their own specific research question. To date, a total number of 319 interviews and measurements have been completed within phase one and two ($n=139$ phase one; $n=180$ phase two). Research students analysed the data corresponding to their research question and presented and discussed their findings as their final year dissertations. Furthermore, students also successfully submitted their work to several national and international research symposiums (i.e. 3 posters in British Dietetics Association research symposiums, 1 poster in National Nutrition and Health Conference and 5 posters in European Nutrition Conference) and presented their findings.

Regardless of the aforementioned rationale for conducting the project (i.e. exploring the research basis of the university food and nutrition policies), we thought that the project and its research activities are also well justified from the pedagogical perspective:

Firstly, encouraging students to take part in this collaborative research project is an attempt to develop the students' transferable skills (e.g. teamwork, communication, problem solving), facilitate delivery and presentation of knowledge, promote peer support, and provide a safe and scientifically sound environment for achieving the research module's learning outcomes.

Brown and Atkins (1988) stated that the development of communication skills, intellectual and professional competencies, and personal growth of students are the goals of small group teaching (Brown and Atkins (1988) cited in MacDonald 1997: 13). Macdonald completed this by adding that small group learning can help students to support each other's learning, tackle large scale tasks, be a part of a repertoire of teaching methods and permit for the interchange of opinions (Macdonald 1997). Our educational goals seemed to be in line with the aforementioned points concluding that small group learning methods would enable us to achieve our pedagogical goals.

The definition of the students' 'transferable skills' that we tried to develop in this project, is open to debate. Since the 1970's, there has been a focus towards the study of learning skills (i.e. skills that influence the effectiveness of student learning, such as essay and lab report writing, using the library, minute taking and being organised). Later on (during the 1980s) these evolved to be not only the skills necessary for effective learning but also included many skills that students need outside academia and in their professional activities. This new definition included items such as communication and information skills, task and time management and record keeping and are generally referred to as 'transferable skills' (Gibbs et al., 1994).

We based our definition on the simple list of transferable skills suggested by Oxford Brooks University (Gibbs et al., 1994). We believed that conducting the final year project as an undergraduate collaboration, with the weekly 'small group' meeting format, would give an opportunity to develop these skills.

At the end of phase one and two of the research project, considering the research students' success (all successfully passed their dissertations and seven research students are disseminating their findings at national and international conferences), this seemed to be a potential way forward in undergraduate research supervision. However, on reflection, we soon realised that many of the skills required for implementation of the research design were discipline-specific (e.g. interview techniques, anthropometrical measures) were basic skills for our BSc Dietetic research students, but not for the BSc Health & Lifestyle Management research students. Therefore, we needed to constantly assess and modify the supervisory plan of delivery based on the requirement of transferable skills. Furthermore, observing each other in practice, research students realised that sometimes they lacked the skills that were expected, and being responsible for part of the project, they needed to seek strategies to develop these skills.

This approach was in line with Kolb's experiential learning cycle (Kolb 1984) that was used in our project for developing the small group's transferable skills (**Figure 1**).

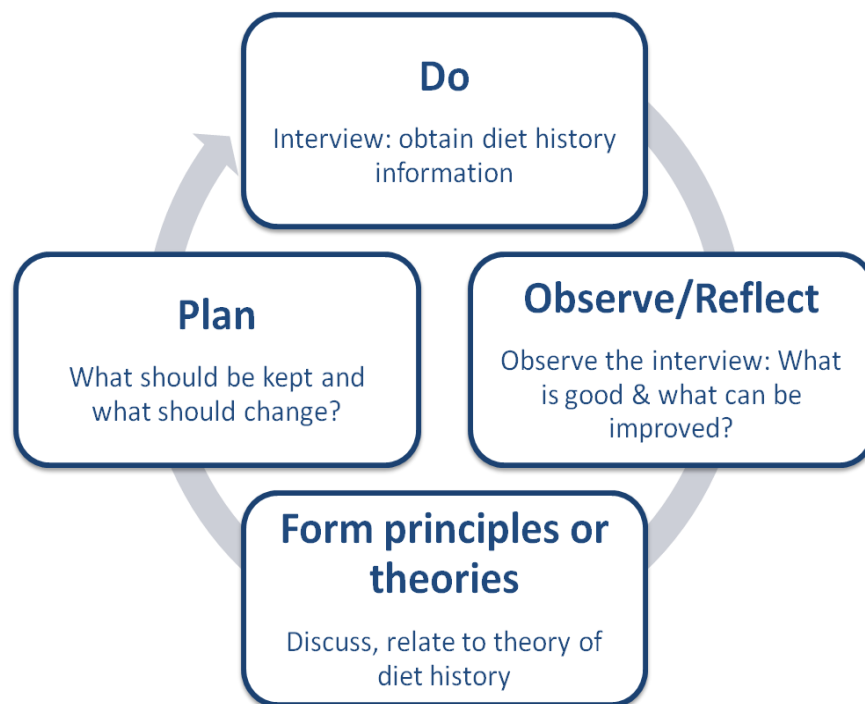


Figure 1: Developing the students' diet history interview skills using Kolb's experiential learning cycle (1984)

At the end of phase one and two, and in term of impact of this research on teaching and learning practice, we have some interesting findings:

One of the main educational outcomes of conducting this collaborative undergraduate research project was developing 'peer support' among the students. As a result of developing peer support among these students, toward the end of their research project procedures (prior to submission), they rarely needed supervisory support as they were typically able to raise their questions among the research team. Whereas, undergraduate research students who conducted individual projects, usually found this period a difficult and stressful time when they required additional support and attention from their research supervisors.

Biggs (1999) refers to the strong body of evidence, supporting the effectiveness of this student-student interaction. He mentions that by developing peer support, students can elaborate on known content (i.e. hear of interpretations that they themselves have not thought of), derive standards for judging between these interpretations, and finally obtain an awareness of how one arrives at a given position or conclusion (Biggs 1999).

We agree with Biggs on that developing peer support in our group helped our students to achieve effective learning outcomes. Promoted peer support practiced in this project not only had significant educational outcomes, but also helped us in achieving our main goal of developing transferable skills among these students. For example, when a student helps another student by explaining a concept, this would increase his/her self confidence, communication skills and knowledge based on the assumption that 's/he is able to teach or solve the problem' (Biggs 1999).

On the other hand, we accept that developing peer support has its own downfalls. For example, supervising this research project, we have noticed how sometimes a very active member of the group could bring a misconception or a misunderstanding into the group and because of the substantial role of the student in the small group; s/he dictates the idea to the others. Therefore, while peer support can have a substantial positive role in achieving learning outcomes, this does not undermine the role of supervisor or group leader, who need to direct the group and oversee the discussions.

With regard to the alignment with institutional and national priorities, conducting the final year undergraduate project as collaboration is well justified:

From the start of the academic year of 2009/2010 in the Faculty of Health and Life Sciences (HLS), Coventry University, undergraduate research supervisors were advised to reduce supervision hours to 5 hours per research student, and wherever possible see research students in groups. Practising the new guidelines, lecturers were concerned that this inadequate time allocated to supervision of undergraduate projects might negatively affect the quality of our undergraduate research. By designing this group undergraduate project, we managed to adhere to the new guidelines of the faculty and yet improve the quality of our undergraduate research (assessed by success in dissemination of the research findings of the research project).

At national level, the recent document of the (UK) Higher Education Academy on the 'Developing Undergraduate Research and Enquiry' clearly emphasises the importance of engaging undergraduate students in research (Healy 2009). Considering the model in **Figure 2**, our research project engaged undergraduate research students in all four aspects of the model, while many other undergraduate projects fail to do so. For example, many undergraduate students conduct a systematic review or an extensive literature review, which might not necessarily offer the primary understanding and experience.

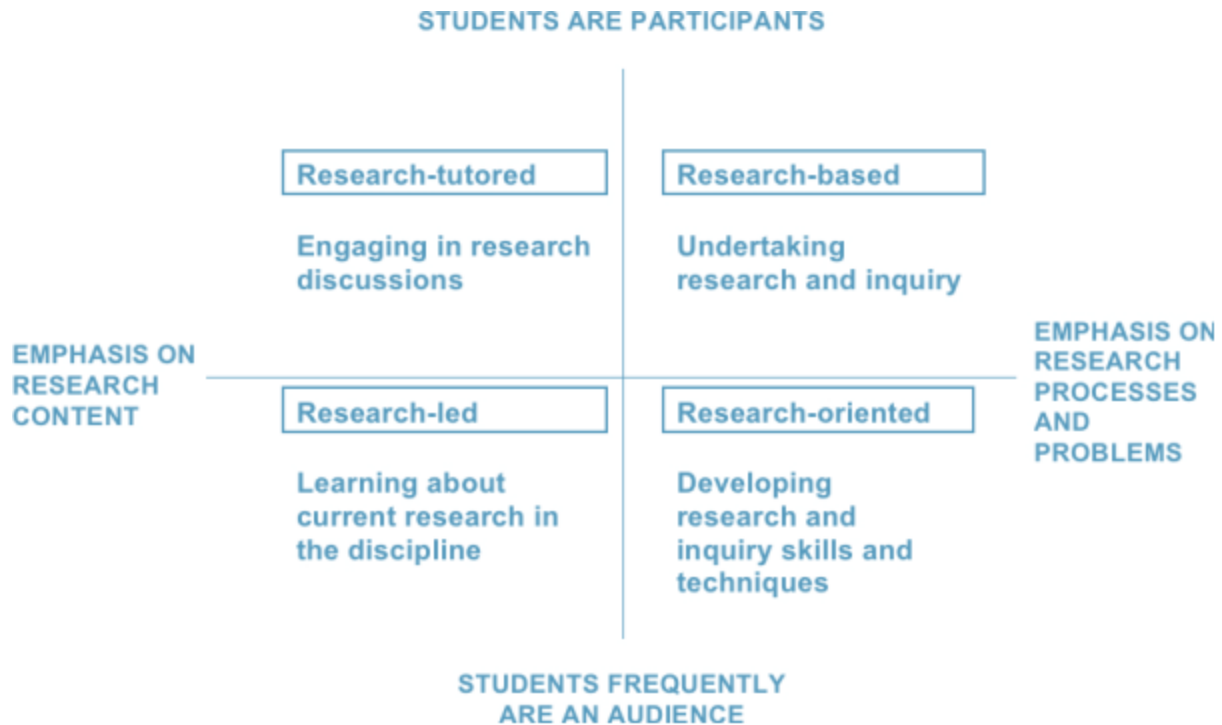


Figure 2: The nature of undergraduate research and enquiry

**Adopted from Healey M. and Jenkins A. Developing undergraduate research and inquiry. The Higher Education Academy; 2009, p 7*

Whilst all four main methods of engaging students with research are important and valuable, Healey and Jenkins (2009) emphasise that an appropriate undergraduate curricula must include all of these elements. In many BSc Dietetics courses, too much attention is given to the theoretical model of developing research skills, methodology, techniques, and learning about evidence based practice in the discipline; at the same time perhaps overlook and limit the experience of our undergraduate students in undertaking the research and engaging in research discussions. For example, some lecturers are content in letting undergraduate students perform a library based study during their final year “research project”, or encourage students to conduct simplistic research with the main agenda of passing the research module and subsequently completing the BSc course. We argue that this does not really provide an in-depth learning experience that will increase students’ transferable skill and knowledge.

Gibbs and Habeshaw (1992) refer to some of the quotations from the lecturers about group projects being problematic from the assessment point of view, because the assessments are not straightforward and individual skills may remain overlooked or unrewarded. While we accept that this is a challenging area and a major threat for precise and accurate assessment of group projects such as ours, we refer to several strategies mentioned by Gibbs and Habeshaw, which

can address the issue (e.g. agreeing on ground rules for supervision, clarifying the assessment criteria, fieldwork visits) (Gibbs and Habeshaw 1992). Furthermore, anticipating the possible difficulties of the assessment, we asked students to formulate their own specific research questions and only concentrate on them, which greatly helped us to assess the final dissertations, meeting assessment criteria with consideration that this has been a group project.

On account of all aforementioned benefits of conducting a collaborative final year undergraduate research project, we would like to promote this approach to other colleagues who are supervising final year undergraduate students in this field. We have been practicing to conduct our postgraduate research project as a collaborative research project for several years and we suggest that the same could be done for final year undergraduate projects.

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Face-to-face versus remote synchronous instruction for the teaching of single-interrupted suturing to a group of undergraduate paramedic students: a randomised controlled trial

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Abstract

This post-test randomised controlled trial (RCT) aimed to explore whether readily accessible videoconferencing technology can be used to effectively teach a complex psychomotor skill (in this case single-interrupted suturing) to a group of undergraduate paramedic students who have no prior experience of the technique, and to ascertain whether there is any difference in performance between a group taught via this method, and a group taught via traditional face-to-face (F2F) methods. Despite a small sample size (n24), findings suggest that this process of instruction may be effective, and that participant performance will be at least as good as a group taught via F2F methods. The design of this study allows a degree of confidence when generalising from these results; incorporating a skill which is unfamiliar to all participants; experiential equivalence within and between both groups; and the adoption of validated objective assessment criteria. Participant opinion was also explored in relation to this method of instruction. Should such online synchronous methods of instruction prove viable, they will allow a greater opportunity for clinicians to access training which requires the acquisition of complex psychomotor skills.

Keywords: remote instruction; synchronous; online education; video conferencing; psychomotor skills; clinical skills; web conferencing; paramedic

Introduction

For many authors, e-learning represents a credible solution to the difficulties experienced by emergency medical practitioners in terms of engagement with desired or mandatory clinical training. These difficulties encompass problems with attending traditional face-to-face (F2F) training, such as obtaining release from working schedules, or where travelling to the location of training is impractical (Curran *et al.*, 2005; Weeks & Molsberry, 2008; Roe *et al.*, 2010).

These difficulties may be experienced by paramedics, who are obliged by the Health and Care Professions Council (2007) to maintain their "fitness to practice" through ongoing career-long learning. For this group, e-learning may prove particularly fruitful, as according to the Quality Assurance Agency (2004), paramedics are required to demonstrate, "an ability to engage with technology, particularly the effective and efficient use of information and communication technology", and maintain their continuing professional development through educational programmes which adopt an innovative approach (College of Paramedics, 2008).

Whilst e-learning methods have already been adopted within many areas of health education, they predominantly tend to focus upon asynchronous applications, with less attention given to synchronous methods such as live videoconferencing (Morrison *et al.*, 2009; Chen *et al.*, 2005). However, acknowledged advantages of synchronous methods include being "more akin to face-to-face contact" and the allowance of immediate corrective feedback from the instructor (Chen *et al.*, 2005). Such immediacy is considered to be of particular importance for the acquisition of complex psychomotor skills, and one of the key reasons why it is generally deemed inappropriate to teach such skills purely via e-learning (Roe *et al.*, 2010).

Synchronous e-learning studies involving psychomotor skills

In an RCT conducted by Haney *et al.* (2012), a comparison was made between a conventional lecture and an online synchronous method for the teaching of wound closure techniques (including suturing) to a group of 89 novice paramedics. This method incorporated live video footage of the conventional (control) group lecturer being transmitted to the online (experimental) group classroom, with provision for participants to seek clarification. Post-test comprehension was assessed via a multiple-choice question (MCQ) paper, and a skills test was used to evaluate their practical techniques. No significant difference was found between the groups for either the comprehension test, or for any aspect of the practical skills techniques, although participants in the control group did rate the "effectiveness of the teaching" as superior.

Although this study adopted an experimental design and was determined to include a sufficient sample size, there are some limitations which should be considered. Whilst the authors suggest that this online synchronous technique could be at least as effective as traditional F2F methods, they do state that without using validated assessment criteria, there is the potential for the results to be affected by subjective bias.

It was also not apparent how much practice the participants were allowed to undertake (or how it was scheduled) following the educational delivery, or indeed whether the experimental group were offered any practice time at all. Internal validity may have also been affected by a proportion of the experimental group (29%) having prior suturing experience, although the authors state that even with this variable removed the results were unaffected.

In a comparable study involving the teaching of neonatal resuscitation skills to qualified nurses, Jain *et al.* (2006) concluded that online synchronous methods offer a “feasible and effective alternative” to conventional F2F methods. Following a randomisation process which sought to balance qualifications and work experience between the groups, 26 students received online synchronous “tele-education”, whilst 22 students received conventional classroom teaching; with both groups receiving identical educational material from the same instructors. An assessment of knowledge and skills (MCQ paper and 5 Objective Structured Clinical Examinations (OSCEs)) was conducted both pre and post-test by examiners blinded to the method of instruction, and a Likert scale questionnaire was used to ascertain levels of satisfaction with the teaching and learning experience. Although when pre-test scores were accounted for, underpinning knowledge results were found to be higher within the F2F group, post-test skills results were both significantly improved and comparable between the groups. Echoing the results of Haney *et al.* (2012) however, students rated the levels of participation and “delivery of subject” as superior in the F2F group. Whilst this study again suggests that synchronous e-learning methods are a viable means for psychomotor skills delivery, it should be noted that there were proportionately more students in the online group with prior experience of both handling a newborn, and newborn resuscitation (although not deemed statistically significant). The authors also acknowledge that external validity may be affected by the background of the participants, which may not reflect the experiences of those in rural areas.

Weeks and Molsberry (2008) sought to test the hypothesis that the “knowledge, psychomotor performance and confidence” of participants who were re-trained in Paediatric Advanced Life Support (PALS) techniques via synchronous videoconferencing would not be inferior to those taught via F2F methods. The sample for this study was deemed powerful enough to detect non-inferiority, consisting of 73 clinicians who were randomised into a F2F group and videoconferencing group according to their background and experience. The instruction process was in accordance with American Heart Association guidelines, which for the videoconferencing group consisted of interactive audio and video communication. The classroom instruction was delivered in the presence of the online instructor to help ensure that the educational content was identical for both groups, and an OSCE-style checklist was subsequently utilised to measure psychomotor skills performance. As hypothesised, no statistically significant post-test difference could be detected between the groups in terms of their psychomotor skills performance. The same result was also found in terms of the knowledge levels of each group, and their confidence in performing the skill.

As with Haney *et al.*, and Jain *et al.*, this study adopted a robust experimental design and suggests that online synchronous methods may provide a viable means of teaching psychomotor skills. However, the authors were obliged to focus upon retraining competent clinicians (rather than complete novices) owing to concerns about the potential need for remedial training should videoconferencing methods prove inferior.

Rationale and objectives for the current study

Although there are limitations which should be considered, the literature pertaining to the synchronous delivery of healthcare-related psychomotor skills suggests that it can be as effective as F2F teaching. However where it has been measured, student satisfaction with the educational delivery tends to be lower for the remote group.

This study is intended to contribute to what is known in relation to skills acquisition via remote synchronous delivery. It incorporates the teaching of a new skill to “novice” participants, the use of readily available webconferencing software (in this case “BigBlueButton” (BBB)), validated assessment criteria, and an exploration of student opinion. The methods mirror the post-test experimental fixed designs of previous studies and should provide results which may be of relevance to healthcare educators, and potentially provide the basis for a larger study with a similar group.

General research question:

- Can remote synchronous methods of instruction be effectively used to teach a complex psychomotor skill?

Specific question 1:

- Can readily accessible video conferencing technology be used to teach a complex psychomotor skill?

Specific question 2:

- In comparison to traditional F2F teaching methods, can a group of paramedic students be effectively taught how to use a single-interrupted suturing technique via remote synchronous methods?

Specific question 3:

- What (if any) elements of deficiency (objective or subjective) become apparent either within or between each group?

Research design and method overview

Overview

A post-test RCT design was adopted to compare the efficacy of teaching a complex psychomotor skill via synchronous videoconferencing (experimental group) with traditional F2F classroom instruction (control group). Single-interrupted suturing was chosen as a proxy

measure for some of the complex psychomotor skills which must be mastered by qualified paramedics. This technique was also chosen as it is currently beyond the scope of newly qualified paramedics, and would negate the need for subsequent equivalence of training in order to safeguard standards of patient care.

Participants

A volunteer participant sample of 29 students was drawn from the available undergraduate paramedic population ($n=64$) at the author's educational institution. Whilst prior experience of single-interrupted suturing would have led to exclusion, none of the participants declared prior experience of this (or a similar) technique. No differentiation was made on the basis of gender or age.

The random allocation of participants to either control or experimental group conditions took place at the study launch. Participants were also blindly allocated a unique identification number to be used as their sole means of identification during the post-test OSCE assessment.

The creation of an assessment criterion

The OSCE is used extensively within the current paradigm of paramedic education, and also within other health-care related professions which utilise similar psychomotor skills. For the purposes of this study, the *Royal Marsden Hospital Manual of Clinical Nursing Procedures 7th ed.* (Dougherty and Lister, 2008) was used as a guide for single-interrupted suturing, along with the contributions from a panel of twelve experts who were asked to take part in a Delphi Survey. The experts were all colleagues of the author, with either direct experience of teaching the procedure, and/or experience of writing OSCE criteria. During the four rounds of the survey, a consensus was reached in relation to the assessment components, and having a pass/fail criterion on key psychomotor skills. Adjustments were however anticipated following the study pilot.

Study pilot

It was deemed important to implement a pilot for this study owing to the novel use of non-specialist videoconferencing software and untested assessment criteria. As the F2F teaching of clinical psychomotor skills with a post-test OSCE is a fairly established mode of instruction and assessment, it was only considered necessary to pilot the remote learning group.

Volunteers without prior suturing experience were drawn from the pool of lecturers working within the author's educational faculty. Lecturers were chosen so as to avoid the "pre-testing" validity threat which might be caused by utilising the same student participants for both the pilot and the main study.

During the instructional element, issues were highlighted concerning the physical on-screen space required for the webcam images and the simultaneous observation of multiple

participants. It was therefore determined that no more than 5 participants would be taught at any one time, and that for instructional consistency, this limitation would also be imposed upon the control group. Key areas for revision highlighted within the OSCE element of the pilot included the clarification and expansion of certain criteria, and the inclusion of a “free text” area for the examiner to “qualify” the overall global rating.

Procedure

The study began with an explanatory launch event during which a participant information sheet was issued, consent obtained, pre-reading material issued and participants randomised. All participants were then given several days to study the same pre-reading booklet, which outlined the relevance of the procedure, and gave a descriptive and pictorial breakdown of the surgical instruments involved and the technique which would be taught. (Figure 1).

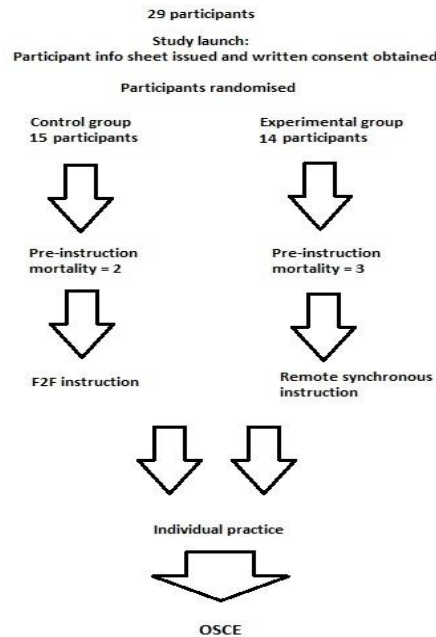


Figure 1: Study overview

A couple of days following the launch, the first two control groups received their instruction via traditional F2F classroom-based methods. On the afternoon of the same day, the first two experimental groups were provided with identical training resources and received remote synchronous instruction utilising the videoconferencing platform BBB (the morning/afternoon group order was reversed for the subsequent day of instruction). The online participants were also allocated an individual computer work station with their own screen, headset with built-in

microphone, and 6.0 megapixel USB “plug-in and play” webcam. This allowed each online participant to see the procedure and allowed the instructor (using identical equipment) to offer instant feedback upon their attempts. Each participant could also see the webcam images and hear the audio output of the other participants. This allowed them to witness how their peers were performing, and hear the feedback given to them (in order to replicate the experience of independent study, participants were not allowed to converse outside of the videoconferencing forum). All groups received tuition from the same instructor, who had also taught the pilot group.

The tuition itself followed a “staged process”, broadly reflecting the development of learning according to the taxonomy of the psychomotor domain (Bullock, 2000; George and Doto, 2001). These stages were broken down into; an overview (provided by the pre-reading booklet); a “real speed” demonstration of the procedure by the instructor; a breakdown of the procedure into key steps; a repeat demonstration guided by the participants (with the opportunity to ask questions/seek clarification); the performance of the procedure by each participant with reinforcement and feedback from the instructor (George and Doto, 2001; Bullock, 2000; Grantcharov and Reznick, 2008).

Although 29 students agreed to participate at the “study launch”, 3 participants from the experimental group and 2 from the control group failed to attend their instructional training sessions. This left 11 participants for the experimental group, and 13 for the control group. Fortunately, there was no further “mortality” during the study and all of the remaining participants went on to undertake the practice and OSCE assessment elements.

In the 2-3 days following the instructional element for both groups, all participants were given a period of self-directed practice, with equipment issued for that period of practice only. Although it was only possible to facilitate one period of practice for the participants, it did follow the recommended “distributed” pattern (Magill, 2011) in that it allowed a period of consolidation between periods of instruction and practice. Participants were also asked not to consult external sources of reference so as not to introduce any additional factors which may distort or override the instruction provided for them.

The OSCE assessment followed a predetermined assessment structure, with just one assessor who was “blinded” to how each participant had been instructed. Data regarding the similarities/differences in performance within and between groups was collected via the individual allocation of a “pass” or “fail/omitted” score against 24 separate criteria, and a “global assessment” score which utilised a progressive scale from 1 to 5 as a representation of the participant’s overall competence. A 5-point Likert scale (with free-text box) was used to collect qualitative feedback from the experimental group.

The OSCE and Likert scale data was subsequently coded and entered into Statistical Package for the Social Sciences (SPSS), version 19.

Findings

According to the separate OSCE criteria there were 7 areas in which the Control group performed better than the Experimental group, and 11 areas where the reverse was true. The worst performing areas for the Control group (9 "passes") represented a mean of 0.69, whilst the worst area for the Experimental group (7 "passes") represented a mean of 0.64. There was no apparent inter-group correlation between the worst performing areas, although the lowest "pass" rate for both groups was recorded for the variable, "*The needle is grasped in the needle holder at an appropriate distance...*". The biggest proportional difference between the groups was within the variables: "*Care is taken to ensure that the needle is not blunted by incorrect handling...*"; and "*Care is taken to ensure that the depth of the wound is accounted for...*". In both cases the Experimental group were superior, with a mean of 0.91 (10 "passes") against the Control group mean of 0.69 (9 "passes") (Table 1).

Dependent variable – OSCE criteria	Control group criteria scores			Experimental group criteria scores		
	N	Pass achieved	Mean	N	Pass achieved	Mean
The needle holder is held appropriately in the dominant hand	13	12	.92	11	8	.73
The needle is grasped in the needle holder at an appropriate distance from the "cutting" edge and from the "thread end"	13	10	.77	11	7	.64
Care is taken to ensure that the needle is not blunted by incorrect handling (throughout the procedure)	13	9	.69	11	10	.91
An appropriate tissue location is chosen to start suturing (eg. centre of wound)	13	13	1.00	11	9	.82
The needle is inserted at 90 degrees to the tissues	13	13	1.00	11	11	1.00

The needle is inserted at an appropriate distance from the wound edge	13	10	.77	11	9	.82
Care is taken to ensure that the depth of the wound is accounted for, leaving no internal "dead space"	13	9	.69	11	10	.91
The needle is brought up between the wound edges and the suture thread is pulled up through the centre of the wound	13	9	.69	11	9	.82
The needle is reinserted at an appropriate angle to the internal base of the wound and the suture is pulled through the tissue on the opposite side of the wound	13	13	1.00	11	10	.91
The needle exits the tissues at the same distance from the wound edge as the initial insertion site (on the opposite side)	13	12	.92	11	11	1.00
A short "tail" is left once suture is placed	13	12	.92	11	11	1.00
The first "throw" is placed effectively: grasping the needle end of the suture, two clockwise loops around the needle holder are made. the "tail" of the suture is grasped with the needle holder and pulled through the two clockwise loops	13	13	1.00	11	11	1.00

The knot is tightened until the tissues are approximated	13	13	1.00	11	11	1.00
If necessary, the student is able to "lock" the first throw in place	13	13	1.00	11	11	1.00
The second "throw" is placed effectively: an anti-clockwise loop is made around the needle holder	13	13	1.00	11	11	1.00
At least one further "throw" is placed	13	13	1.00	11	11	1.00
Closure of skin – 2 sutures minimum, correctly performed	13	10	.77	11	10	.91
The knot lies flat across the wound	13	13	1.00	11	10	.91
Knot "tails" are cut to approx 5-6mm in length	13	11	.85	11	10	.91
Skin edges do not overlap and a "step" is avoided	13	12	.92	11	11	1.00
Appropriate tension: sutures are not too tight or too loose	13	11	.85	11	8	.73
The edges of the wound are suitably opposed	13	12	.92	11	11	1.00
Sutures are appropriately spaced	13	11	.85	11	11	1.00
Suitable care is taken to avoid a potential "sharps" injury and "sharps" are disposed of	13	12	.92	11	9	.82
Valid N (listwise)	13			11		

Table 1: Outline of the OSCE pass/fail performance of each group

In terms of a comparison between the overall scores between groups, the Control and Experimental group means are similar, at 21.46 and 21.82 (with a similar standard deviation of 2.537 and 2.136) (Figure 2).

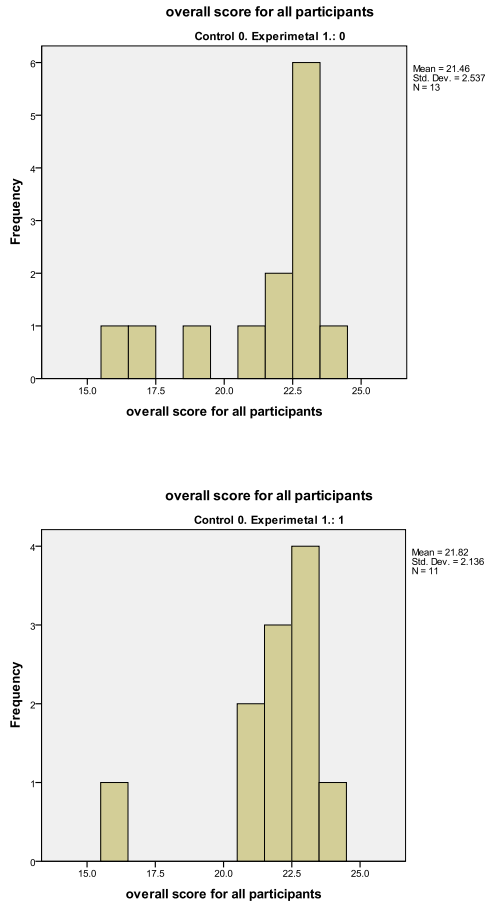


Figure 2: Comparison of overall score for all participants

The distribution of “global rating” marks displays a difference between the groups. Within the Control group marks of 4 and 5 are equally distributed between 8 of the 13 participants (61.6%), whilst within the Experimental group a mark of 4 was given to 7 of the 11 participants (63.6%), and a mark of 5 given only once. Proportionately more participants within the Control group received the lower marks of either 1 or 2 – as opposed to 1 participant in the Experimental group (Figure 3).

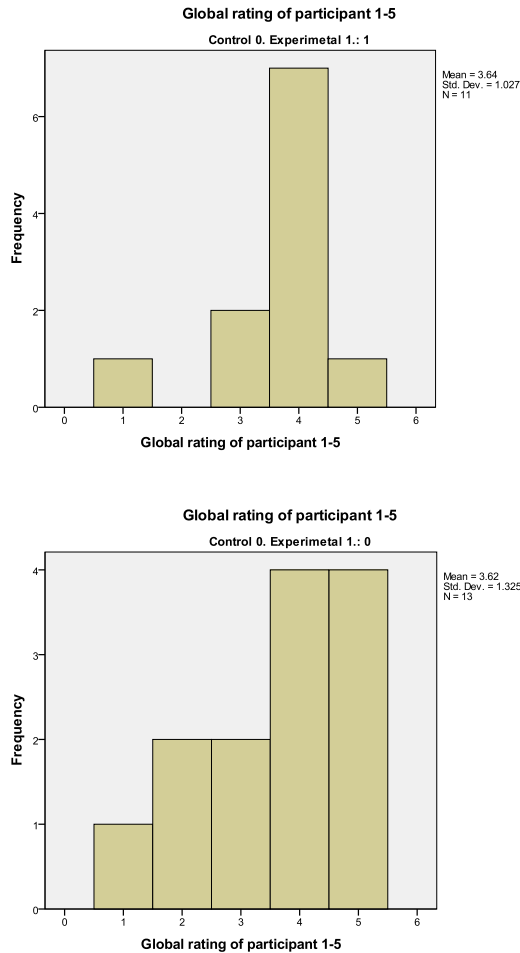


Figure 3: Distribution of "Global rating" scores

The overall "pass" and "fail/omitted" results (for each criterion) for each participant from both groups were compared via Mann-Whitney U test. This generated a significance of $p= .976$, suggesting no statistically significant difference between the two groups. The mean scores for the "global assessment" were also similar, at 3.62 for the Control group, and 3.64 for the Experimental group (with a similar standard deviation). A Mann-Whitney U test generated a significance of $p= .854$, which also suggests that there is no statistically significant difference between the two groups in relation to their "global rating" scores.

For the Likert scale survey, only 8 responses were obtained (Table 2). The poorest feedback response can be seen within the variable pertaining to sound quality, with a mean of 3.13, and a fairly even distribution of opinion. Marginally better, with a mean of 3.5, were the variables relating to participant feedback during the session, and the value of the pre-reading material, although the latter did receive an overall higher score for the two top statement categories. The very highest rating of opinion (with a mean of 4.5) was given to the variable relating to the

"good foundation" provided by the remote instructional method. This variable received no negatively orientated scores, and 5 within the "strongly agree" category. Other highly scoring variables (all with a mean of 4.38) include; *"There was adequate time to consolidate my learning between receiving the remote instruction and the OSCE"*; *"The period of consolidation/practice was necessary for me to pass the OSCE"*; and *"Receiving feedback from the tutor during the session was helpful"*. This last variable is interesting in that it received the most "strongly agree" scores (6), but was tempered by 1 vote in the "strongly disagree" category. The same participant also gave many of the other variables low scores, which was against the generally higher trend from the other participants.

Likert variable	Frequency					mean	Std Dev
	Strongly disagree	Disagree	Not sure	Agree	Strongly agree		
Remote instruction has provided me with a good foundation for learning how to suture	0	0	1	2	5	4.5	0.76
It was easy to follow the instructor's demonstrations	0	1	1	4	2	3.88	0.99
It was easy to demonstrate my own technique to others	0	0	3	2	3	4	0.92
Seeing what others were doing was beneficial	1	0	0	3	4	4.13	1.36
Receiving feedback from the tutor during the session was helpful	1	0	0	1	6	4.38	1.41
Receiving feedback from other participants during the session was helpful	0	2	1	4	1	3.5	1.07
It was easy to clarify things that I was unsure of	1	0	1	4	2	3.75	1.28
The pre-reading material was essential for the remote learning of the skill	0	0	2	3	3	3.5	1.31
There was adequate time to consolidate my learning between receiving the remote instruction and the OSCE	0	0	1	3	4	4.38	0.74

The period of consolidation/practice was necessary for me to pass the OSCE	0	0	1	3	4	4.38	0.7 4
The quality of the remote video picture was adequate for the task	0	0	2	5	1	3.88	0.6 4
The sound quality was adequate for the task	1	2	1	3	1	3.13	1.3 6
Overall, the remote learning software was adequate for the task	0	1	0	7	0	3.75	0.7 1
The instructional content of the remote session was suitable	0	1	0	4	3	4.13	0.9 9
There was effective delivery of the instructional content within the session	0	0	1	2	5	4.5	0.7 6
It is possible to learn how to competently perform single-interrupted suturing via this method	1	0	1	1	5	4.13	1.4 6

Table 2: Likert survey results

Discussion

As one student in the Experimental (online) group achieved clinical “competency” according to the predetermined OSCE criteria, it would seem as though it is feasible to teach a complex psychomotor skill via readily available videoconferencing software.

With both groups receiving the same instructional content, the findings do suggest that as there is no significant difference in the results achieved by either group, single-interrupted suturing taught via remote synchronous methods may be at least as effective as F2F instruction. Indeed, in terms of the separate OSCE criteria, the Experimental group performed better in more areas, with the biggest differences between the group scores in favour of the Experimental group.

It could be argued however that as participants in both groups were exposed to the same pre-reading literature and were afforded the same amount of practice, they may have learned how to perform the technique from these methods alone. A factor which could also be deemed unrealistic is that the Control group were not afforded the opportunity to learn from each other during post-instructional group practice – something which usually occurs following most F2F

training sessions. The biggest undermining factor however is the small sample size, which potentially weakens the reliability of the findings and restricts the sophistication of the statistical techniques which can be employed.

The findings from the Likert survey are similarly affected by the small sample size, made evident by the influence of one participant who scored against the general trend in some areas. They do however offer a unique contribution from the participants' perspective. For example, the question relating to the value of the pre-reading material received one of the overall lowest scores, which suggests that (from the participants' perspective) it did not act as an obvious substitute for the instructional method. The results also indicate that the participants were least impressed by the sound quality, which was expanded upon in the comments box by 2 students, who cited the slight (but disconcerting) delay between the video and the sound. However, the positive trend of answers for other questions, such as the one pertaining to remote instruction providing a good foundation, and the helpfulness of the tutor feedback lend support to the potential viability of teaching complex psychomotor skills via this method.

Limitations

Limitations of this study include the potential mismatch between the instructional methods and assessment criteria (as demonstrated by 22 of the participants failing to achieve "competency"). An explanation for such a low overall achievement of competence could be that greater adjustments were needed to the learning materials and teaching provision prior to the OSCE. According to Robson (2002:97) the piloting process for fixed designs is an important part of identifying potential flaws with the study design and data collection processes. Limitations to the pilot for this study included the low number of available participants, and technical issues (which were resolved for the main study) restricting the quality of communication between the participants and the instructor. However, one area of teaching which was revised following the pilot was clarification in relation to the needle insertion angle. This was an area in which all participants achieved a "pass" within the main study OSCE, and suggests that further indications for revision of the teaching processes (which may have been indicated by further piloting) is likely to have contributed to an improvement within the overall achievement of "competency".

A higher "pass" rate within each group would have allowed the employment of further statistical tests, which could also have been more sensitive if a larger sample were available. Greater alignment (and therefore comparison) with other studies could also have been achieved through surveying the opinions of the entire participant group.

Implications and conclusions

Despite the limitations, the results do suggest that it is possible to use remote synchronous methods of instruction to effectively teach a complex psychomotor skill, and that a group taught by this method will be able to perform at least as well in a validated OSCE assessment as a group who have been taught by F2F methods. The findings also mirror the results of other studies in terms of the efficacy of remote synchronous learning and its comparability with F2F methods. In addition, it has incorporated participants who are at the same academic and experiential level, an instructional design based upon pedagogic theory, and validated OSCE assessment criteria. These factors enhance its external validity and its applicability to other areas of “competency-based” clinical education.

Despite the general conception that complex clinical/psychomotor skills should only be taught in a F2F environment (Roe *et al.*, 2009), this study will hopefully add credence to this particular method of instruction. The adoption of such instructional techniques (even if initially as part of a blended approach) should offer a means of extending the scope of existing e-learning courses, and offer emergency clinicians a greater opportunity to advance their clinical skills.

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Modelling a constructivist approach to continuing professional development through e-Buddies

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Abstract

When changing roles, responsibilities and even careers, the need to get oneself 'up to speed', particularly in the context of a constantly evolving technological environment, is paramount. Accessing information and new knowledge however, is only part of the process – it is the making sense of that knowledge and being able to develop the skills to practise what has been learned that makes continuing professional development (CPD) effective and worthwhile.

The need to provide support for professional learning within an online environment is as important as face to face 'training', and the role of mentor and/or coach is important in helping to 'scaffold' learning until the learner develops sufficient self-confidence and self-efficacy to become a self-organised learner.

This case study provides an opportunity to reflect upon a constructivist approach to professional learning in an online environment through the support of an e-buddy. Taking the step of joining the initial e-Treat, engaging in the event and finding a first e-buddy was the initial 'hook'. Being drawn in to explore the use of Concept Maps with my own students and to then take part in an 'Ask the experts' event – a title that still makes me smile as it sat so incongruously with me at the time – was what helped the e-buddy relationship to grow. With that support and a scaffolded approach to professional learning (Walmsley, 2011), I was drawn in.

Keywords

professional learning; coaching for learning; concept mapping; self-organised learner

Introduction

Having started a new career in HE at Staffordshire University after 35 years in schools' education, I needed to absorb, as quickly as possible, significant amounts of information in order to get up to speed in this new working environment. Such a change of career requires the support of fellow professionals by taking on both mentoring and coaching roles. In 2005 the Department for Education and Skills (DfES), in partnership with the Centre for Use of Research & Evidence in Education (CUREE), published a National Framework for Mentoring and Coaching which defined mentoring as:

'a structured, sustained process for supporting professional learners through significant career transitions'

and coaching as:

'a structured, sustained process for enabling the development of a specific aspect of a professional learner's practice.'

I was acutely aware of the need to identify colleagues who could take on these roles to support my induction into the HE environment and my continuing professional development.

I was also conscious that the pedagogical approaches to the courses I was running in the Education Department, particularly at MA level was not making sufficient use of new technologies in order to model approaches to learning which were appropriate to the 21st century. I was keen to move towards a more constructivist approach in which students took on more of a strategic responsibility role for their own learning (Claxton, 2002).

I therefore enrolled on an internal 'Technologies 4 Learning' course run by the Learning Development and Innovation team at Staffordshire University, subscribed to two learning discussion forums on LinkedIn and joined Helen Walmsley's e-Treat in August 2010 (Walmsley, 2011). The distinctive feature of that event was the e-Buddy concept to which everyone involved in the event subscribed and it was that event followed by an online discussion around mind-maps and concept maps which led to further contact between myself and Helen as a follow-up to the E-Treat.

It was the desire to change the delivery methodology of the MA Education programme to one which is both constructivist and connectivist in nature, with students co-constructing both the content and direction of the modules (Hargreaves, 2005), which led me to introduce concept mapping as a formative activity at the start of a new MA module (Vanhear, 2008). This, in turn interested Helen such that we set ourselves up as e-Buddies for that practical outcome of the E-Treat, leading into an 'Ask the Experts' online forum to which I contributed an input on Concept Mapping using e-Learning tools.

Development

The commitment to the other person within an e-buddy relationship is similar to that of a mentor/mentee or a coach/coachee relationship. Clutterbuck maintains that it is the development of a professional relationship which lies at the heart of successful mentoring (2004). Authors who offer practical advice for coaches and mentors tend unsurprisingly to use frameworks to organise the techniques, skills or qualities they describe and analyse. The following four categories provide a simple and flexible version of such a framework:- Relationship Building; Communication Skills; Handling Emotion; Commitment to Action and of these, arguably the two most important within the emerging e-Buddy relationship between myself and Helen, have been the establishment of trust through relationship building and the mutuality of commitment to action.

Relationship building takes time, effort and honesty and to illustrate this, Cunningham provides a summary of the hopes and fears of trainee college teachers in relation to their mentors, gathered from anonymous surveys over a four year period, 2000-2004. Their views emphasise the importance of the quality of the relationship between mentor and trainee;

'genuine concern...support and encouragement...takes a genuine interest...someone who will be friendly...approachable'(Cunningham 2005)

Whilst the development of a good working relationship between Helen and myself as e-Buddies secured a sense of mutual trust, the commitment to meet either in person or in the cyber-space of Second Life, was crucial to sustaining a commitment to action on both sides. Rowley emphasises the challenge of establishing a productive relationship, especially between a mentor and someone who is starting out on a new career or a new direction of an existing career;

'If any two people endeavouring to build or maintain a relationship fail to find the time and the space to meet and have honest and respectful dialogue, the relationship is likely to be arrested at a relatively low level, or may fail completely.'(Rowley 2006)

The concept of building trust through the development of the e-buddy relationship enabled the partnership to explore key questions with respect to how the e-Buddy role was effective as a tool for moving learning forward within a mentoring/coaching framework. Brockbank and McGill (2006) describe and analyse a range of ways of mentoring and coaching which follow from the answers to three key questions:-

1. PURPOSE Is the mentoring/coaching undertaken for the benefit of the individual or the organisation
2. PROCESS Does the power in the relationship lie with the mentor/coach or with the client?
3. LEARNING OUTCOME Is improved performance or transformational change the intended outcome?

Without realising it, we repeatedly and consistently self-referred back to this model during the learning conversations during which we adopted mentor/mentee roles, as well as the more mutually supportive roles of co-coaches and/or e-buddies. Through reflecting on the development of the e-buddy role over time, it is clear that the locus of responsibility for learning within the relationship experienced a shift, according to functions of time, expertise and self-confidence, across the spectrum of mentor – coach – co-coach. A strength of the relationship has been the total acceptance by both of us of the constantly changing nature of the role according to the needs of the situation at the time.

The success of this e-buddy case study can therefore be attributed to a greater extent through two aspects of the e-buddy relationship:- 1) the relative ease of role transition from mentor to coach to co-coach; and b) an ongoing, shared commitment to action

Commitment to action, ie making sure that something happens as a consequence of mentoring, is given substantial attention by Megginson and Clutterbuck. Chapters entitled:- *'Dealing with Roadblocks, Stimulating Creative Thinking, Deciding What To Do and Committing to Action'* are all about helping to ensure that the learning which is facilitated by the mentoring is put into practice (2005). This was always likely to be the Achilles heel of the e-Buddy relationship with two busy people, regularly being approached to take part in additional, new initiatives with the subsequent potential for distractions to derail the partnership.

Megginson and Clutterbuck suggest specific challenges which can cause a mentor/mentee relationship to falter:-

- anxiety about the consequences of implementing a new course of action
- a feeling of lack of capacity in terms of the time and energy required
- difficulty in identifying priorities
- uncertainty about what might work

Certainly I could identify with the second and third of these factors when facing up to many forms of procrastination as distractions from (or even avoidance of) taking action and seeing projects through to completion. Overall however, rather than faltering, the e-Buddy relationship has both broadened and strengthened through being mutually accountable for a commitment to action. Not only have I benefited personally from the element of commitment and accountability, but in addition, the opportunity for dialogue about developing pedagogical practice through e-Learning has expanded my own thinking about learning and how I might put this into practice in my teaching.

In relating theory to practice, the capacity to become a more reflective practitioner from my own perspective has been greatly enhanced and I have gained the confidence to try new

approaches. For example when considering theories of how learning takes place, especially adult learning in the workplace, the following is often postulated as a cyclical, four stage process of learning through reflective practice;

- 1) Activity or Experience which through...
- 2) a process of Review and Analysis...
- 3) leads to Generalisation and Conceptualisation...
- 4) which can be Applied to new Activities or Experiences.

The use of Concept Mapping at the start of my MA Education modules has not only strengthened students' capacity to conceptualise the issues raised within the module, but has developed their capacity for critical reflection and evaluation. Bryan Cunningham highlights the significance of looking at learning from this viewpoint;

"Experiential learning is probably the one single theoretical perspective likely to be of special utility to mentors. The term is perhaps most frequently associated with the work of Kolb although there are a number of other writers- both before and after Kolb- who examine the key dimensions of learning from experience. Dennison and Kirk (1990), for example, adopting the brilliantly succinct formula, 'Do, Review, Learn, Apply'. (Cunningham 2005)

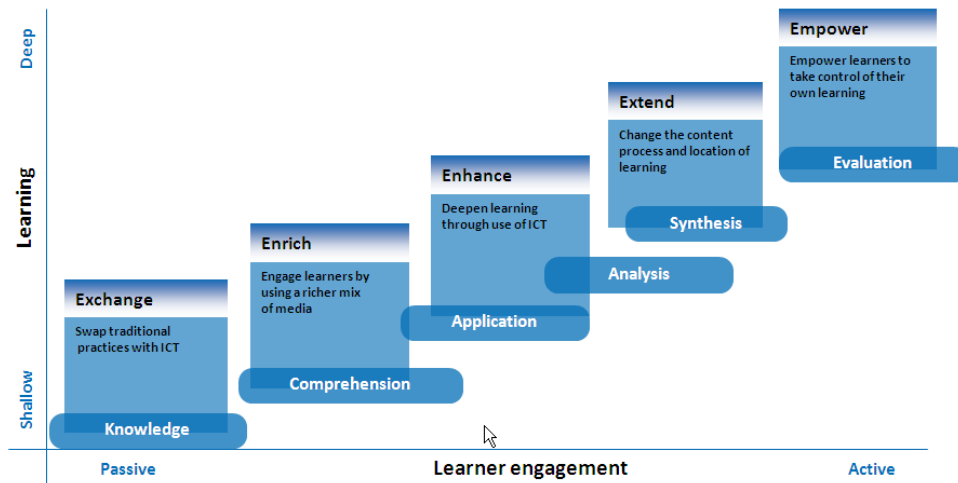
When applied to e-learning activities, this kind of framework bears some resemblance to Helen's Best Practice for e-Learning Model:-



(Walmsley, 2011)

The Best Practice Model of e-Learning, itself suggests similarity with another maturity model which BECTA utilised during the training it facilitated to headteachers, school leaders and ICT subject coordinators through its Strategic Leadership of ICT (SLICT) programme which ran from 2002 to 2007:-

A maturity model of e-learning



(BECTA, 2001; e-Confidence, slide 8)

In each of these models/frameworks, the locus of responsibility for learning and e-learning undergoes a notable 'shift' from expert to apprentice, from the self-confident to the self-effacing, from the 'teacher' to the 'learner'. The corresponding journey of increasing confidence, competence and co-construction with regards to learning is highly dependent upon the quality of the e-buddy relationship. A sustained period of sharing of skills, knowledge and understanding through an e-buddy approach, as with any sustained period of coaching and/or mentoring, results in more permanent 'shifts' in the locus of responsibility and as such this model of providing support, in a collaborative and mutual manner, has a strong message for learning in the technological world of the 21st century.

This manifested itself in the 'thrown in at the deep end' nature of the evolution of my own e-confidence following the introduction of the concept of e-buddies in 2010. Having signed up for the e-Treat event in August 2010, one of the discussion forums during the event settled on the subject matter of mind-mapping and concept-mapping as tools for structuring learning within an HE undergraduate or postgraduate environment. Recognising this as an aspect of learning in which technology was enhancing understanding of 'bigger picture' concepts, I was drawn in as a user of mind-mapping and an enthusiastic learner of concept-mapping. Whether by luck or design, I was hooked and did not want to let go.

Indeed, the sequence of events from attendance at the e-Treat in August 2010 and the subsequent follow-up request from me to Helen for us to become e-Buddies in order to develop a wiki for concept mapping, through to contributing to the 'Ask the Experts' event in December 2010 have had a profound effect on my practice and my pedagogical outlook.

I have since introduced the collaborative use of Concept Mapping to one of my MA Education groups at the beginning of their Interprofessional Working module. The initial reaction of group was to humour me, going along with the request to work in pairs and threes on a very basic outline of a concept map on Interprofessional Working in hardcopy A3 poster format for them to note down their thoughts and ideas or concepts directly onto the map. After a very short introduction to concept mapping from video resources made available on the e-Treat site within the university's VLE, the MA Education students were invited, after some collaborative dialogue and contributions onto the paper version of the concept map, to add to the electronic version of the map on the PC which was driving the software and was connected to an interactive whiteboard.

A useful additional tool was the record function which allowed me to track each and every alteration to the map and this was to prove useful when it was played back to the students the following week so that they could reflect on the collaborative concept map as it grew from their contributions into a summary document of their collaborative efforts. This function also allowed me to demonstrate the activity I had used to introduce the idea of concept mapping to my students, when I was asked by Helen to contribute to the 'Ask the Experts' event in December 2010. Not only had the e-buddy relationship, by that time, given me the confidence to try new approaches to teaching and learning, but it also challenged me to contribute to an event in which, in the past I would have been a spectator rather than active participant.

The impact of introducing concept mapping to this module, on interprofessional working was profound;

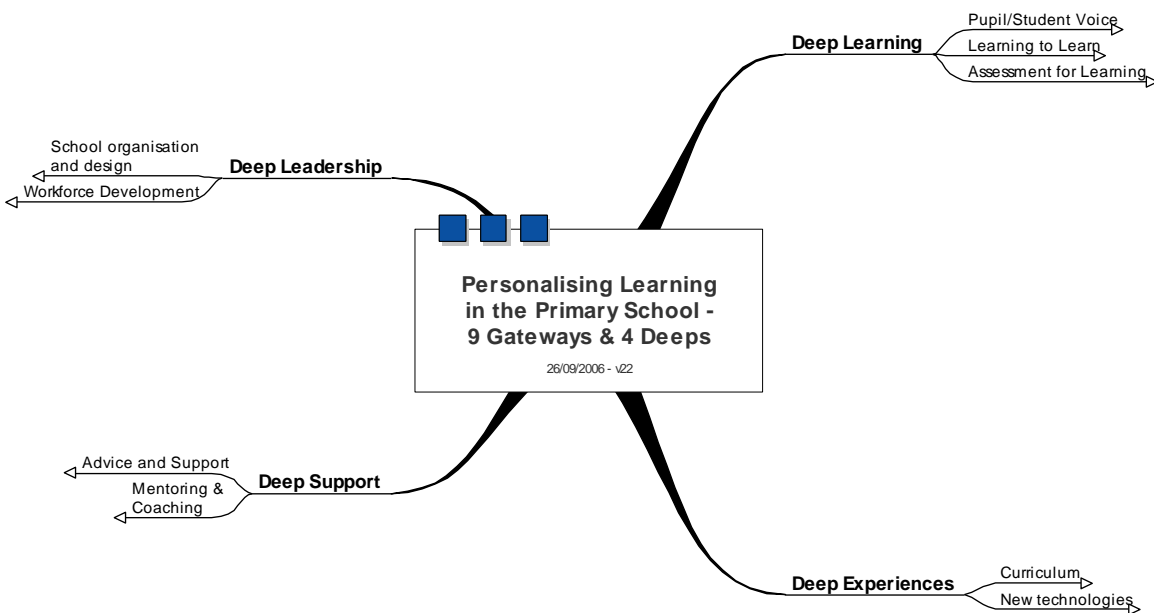
'when we were introduced to the concept mapping exercise and started to explore what was meant by interprofessional working I suddenly got it, I understood what it was all about' (MA Education student, 2010).

In previous assessments of this module, students had struggled with the concept, resulting in a set of assignments which were 'ok' but nothing stunning. By changing pedagogical approaches in a very practical way, students had locked on much more effectively to their learning in this module and their assessments reflected that. As a result of the e-buddy scheme therefore practice has been changed, pedagogical approaches have been modified and students' assessment grades have gone up!

Looking ahead

The extent to which the e-Buddy experience has affected my approach to teaching and learning has been profound. Not only has it encouraged me to try new ideas in my own teaching, it has also enabled me to focus on a model for learning which summarises where my thoughts on pedagogy are currently being drawn.

David Hargreaves, in the series of booklets outlining his vision for Personalising Learning (2004), describes a model of 9 Gateways through which learning could be effectively personalised, each gateway needing to be developed in order to achieve deep rather than superficial pedagogical practice. Grouping these 'gateways' into 4 themes or 'Deeps', Hargreaves went on to extend his model to one in which the Deep Experiences of curriculum development and new technologies, merged with Deep Learning, Deep Support and Deep Leadership as outlined in the following mindmap illustration of his model:-



Adapted from Hargreaves 'Clustering the gateways to PL: the deeps' (2006, 7)

It is this framework which drives my own rationale for making learning engaging, meaningful, authentic and contextualised for the individual learner. It also provides a focus for developing three key elements of Deep Learning, namely 'Learning to Learn', 'Assessment for Learning' and 'Learner Voice'. 'Learning to Learn' and the ability to know oneself as a learner will continue to

be a driving force for the development of the courses that I run and the metacognition training programme, Let Me Learn, devised and developed by Christine Johnston (1998), provides the momentum for this aspect of Personalising Learning.

However, the relevance of the Hargreaves model of PL to my experience of the e-Buddy relationship which I have shared with Helen, lies in the Deep Support elements of both 'Mentoring and Coaching' and 'Advice and Support'. It also provides a link with the Deep Experience of 'Curriculum' and 'New Technologies,' the latter being the context for Helen's vision for the e-Treat, her Best Practice Model for e-Learning and the mutually supportive role of the e-Buddy.

It is my intention to build on these aspects of pedagogical development initially within my own MA Education modules, by personalising learning to the extent that students develop the following characteristics, as identified by Hargreaves (2005,3):-

What characterises the student for whom learning is being successfully personalised?

- **engagement** with learning and the school
- **responsibility** for learning and behaviour
- **independence** in, and control over, learning
- **confidence** in oneself as a learner
- **maturity** in relationships with staff and peers - more open and honest with greater mutual respect
- **co-construction** of design & delivery of education: teaching, learning, curriculum, assessment, school life

Although originally constructed with schools in mind, this framework also lends itself to both FE and HE settings, for younger learners and adults alike. In a maturity model format it offers a tool for both self-assessment and/or tutor assessment of a student's capability to take greater strategic responsibility for their own learning, ie for the locus of learning, as identified within the e-Buddy coaching and mentoring model, to move from teacher to learner, from expert to skilled apprentice, from a prescriptive to a constructivist approach.

The future of the e-Buddy model of support, whether seen as a coaching or mentoring relationship or some other kind of supportive collaboration, is key to the concept of learning in the 21st Century and of learning with and through new technologies.

Epilogue

Further dialogue with Helen during the writing up of this e-Buddy experience has introduced many new conversations and ideas. One of particular note and interest to my own professional learning is that of metacognition, knowing oneself as a learner. As mentioned within the article, my interest in the 'Let Me Learn' programme led me to invite Helen to complete a Learning Connections Inventory so that I might offer her suggestions as to which learning patterns she might 'use first', 'use as needed' or 'avoid'. It occurred to me that through the sharing of one another's learning pattern profile in this way, that the insights into knowing how your e-Buddy learns and having a shared language for discussing and understanding learning would be an immensely valuable tool for being an effective online (or face-to-face) for that matter e-Buddy, mentor, coach or co-coach. In fact how could you be really effective in any of those roles without having that knowledge and understanding of how yourself and others, learn. To be continued.....

Additional Information

If you would like to know more about Concept Mapping and the 'Let Me Learn' programme, please contact me at s.j.hall@staffs.ac.uk

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Contextual Studies and Employability

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Abstract

Recently the importance of student employability has taken centre stage of the Higher Education (HE) agenda. The HE pedagogic rationale has shifted from students acquiring knowledge for its own sake to students attaining a set of employability attributes that will ready them for employment. Although anecdotal evidence suggests Contextual Studies (CS) within the Art, Media and Design (AMD) Faculty of Staffordshire University is frequently viewed as 'academic' by students, it actually includes a number of activities and skills that feature repeatedly in lists of key employability attributes as published by the UK Government, academics and employers. The purpose of this paper is to challenge the prevalent student view of CS by looking into the positive contribution it can make to a student's employability.

Keywords: Employability, Contextual Studies, Skills

Employability

The last decade has seen the importance of employability enthusiastically expressed by academics, the UK Government and employers (Mooreland, 2005. Yorke, 2006. Tomlinson, 2007. Dyson, 2010. Cable, 2010. Lowden et al, 2011. Peg, et al, 2012). The National Conference for Graduate Employability held by Policy Review TV (March, 2011) featured members of The Association of Graduate Recruiters relating examples of how they struggled to fill graduate targets (25% of positions went unfilled) citing that it was not that students did not possess the right qualifications, but that they did not possess the correct or suitable employability skills (Argent, 2011).

Unlike 'employment skills', which are needed to perform a job effectively, 'employability' is multifaceted and complex, as such attempts to describe its essential qualities are often indistinct. Aware of the fuzziness inherent in descriptions in employability this paper uses Yorke's (2006) apposite definition; he views employability as,

"a set of achievements – skills, understandings and attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations" (p 8).

As well as defining what employability is, outlining the multiple aspects which constitute employability can be difficult. Several authors offer combinations and measurements of skills requirements (Gravells, 2010. Cranmer, 2006. Tomlinson, 2007). Dr Paul Redmond of the University of Liverpool takes a quantitative view and sees employability in terms of a formula;

$$E = (Q + WE + S) \times C$$

employability equals qualifications, work experience, the application of appropriate job search strategies - multiplied by contacts (Redmond, 2011).

Knight and Yorke (2003) present an extensive register of 39 loosely ranked skills placed within three categories; Personal Qualities, Core Skills and Process Skills (see appendix). However, Gravells (2010) offers a more concise set of employability skills, which she feels is suitable for young people, graduates and adult learners. She suggests,

- Team working
- Independent enquiry
- Self-management
- Reflective learning
- Effective participation [work-related engagement]
- Creative thinking

Contextual Studies

Elsewhere known as Theoretical and Historical Studies or Critical Studies, Contextual Studies places art, media and design into broader cultural, societal and political contexts; the key philosophical and historical questions considered are why? (purpose and statement, messages and meanings – the significance in objects, graphics and moving images – theorising) and when? (the examination of moments in design thinking – important movements and styles that define time and place) as opposed to the practice centric, studio based questions of what? (the examination of materials and processes - physical attributes – practical considerations) and how? (technical instructions – uses of equipment and the means of production – application of theory).

Through the participation in a number of CS modules at Staffordshire University, AMD students are introduced to and required to practice several employability type skills and attributes. The three significant skills of research, analysis and reflection are discussed here.

Research Skills

Knight & Yorke (2003) list 'information retrieval' and the 'management of information' (the ability to access information from various resources and organise it appropriately) as fundamental graduate attributes. Likewise Gravells (2010) feels graduates have to have the ability to successfully undertake 'independent enquiry' as part of a group of employability skills. These graduate attributes or capabilities strongly align with the increasingly relevant pedagogic theories around Inquiry Based Learning through Information Literacy. Information Literacy can be understood as having the ability to access representations of meaning, commonly as language in the form of text, but also voice, images, performance and meaningful objects that capture ideas which communicate information, reflection and knowledge (Hepworth & Walton, 2009). Healy & Jenkins (2009) see inquiry based learning as enabling students to become producers, not just consumers of information and knowledge. Comparable to the fundamental attributes required within the creative industries (art, media and design) to be a successful practitioner, Hepworth & Walton (ibid) feel information literacy empowers learners to see alternatives to a problem or situation in a critical light and form or choose a range of solutions or strategies. Research (information gathering) has always been at the heart of all CS modules at Staffordshire University; in reality the creative disciplines in AMD are at their core essentially research exercises (in the case of the 'design' disciplines, Crouch & Pearce (2012) view design as fundamentally a 'research ... and knowledge management exercise') and CS content and delivery constantly strive to reflect this core investigative element.

Analytical Skills

Having uncovered interesting and important information and insights, it is not enough for students to simply report findings without analysing them first; the ability to analyse findings is a key skill needed to be successful in the majority of CS modules. Analytical thinking is also a

major attribute of employability. In Knight & Yorke's (2003) 'core skills' of employability (see appendix) they list 'critical thinking' (being able to 'deconstruct' a problem or situation) and 'creativity' (original, inventive, 'lateral' thinking). 'Creative thinking' is also noted by Gravells (2010) and is highlighted by Lowden, et al (2012) who report employers constantly stress the increasing importance of recruiting graduates who can demonstrate 'critical and evaluative skills'. Irrespective of the types of data, information or insights collected, all research analysis involves detailed reading of research material to identify and tease out the strong themes, patterns, trends and essence of what is revealed (Creswell, 2003. Crouch & Pearce, 2012). This is a skill that students find very challenging. To imbue and to be able to evaluate critical thinking and analytical skills, CS modules are generally guided by Cottrell's (2005) model where learning to think in critically analytical, evaluative and creative ways means students have to use mental processes such as attention, categorisation, selection and judgement.

Reflective Practice

Reflective practice is a contemporary theory and discipline which can be described as an individual paying critical attention to the practical views and themes which inform everyday action (Boulton, 2010). Moreover, being reflective is to view the self as a stranger (Johns, 2009). As an employability attribute, reflective thinking and practice is emphasised by Gravells (2010) 'reflective learning', Knight & Yorke's (2003) 'reflectiveness' (a disposition to reflect evaluatively) and by the Higher Education Academy (HEA, 2009) through the use of Personal Development Planning (PDPs) (a structure for students to reflect upon their own learning, performance and achievements). Many of the level five and six CS modules at Staffordshire University include elements of reflective practice as part of the assessment criteria; in a number of projects students are obliged to keep on-going reflective logs of their projects as well as undertake occasional presentations to elucidate their reflections and help adopt what Johns (2009) describes as 'a curiosity about oneself'. As AMD disciplines are replete with both practical and philosophical considerations, contextual studies at Staffordshire University is developing reflective thinking content and delivery strategies that will satisfy employers' wish to have graduates that are self-aware as well as aiding students to engage in purposeful learning.

Final Thoughts

Historically AMD students in Staffordshire University have viewed theoretical/critical studies as 'intellectual' and lacking beneficial, career orientated applications. Yet through the emphasis on research skills and information literacy, the constant promotion and assessment of analytical skills and continuously stressing the importance of purposeful reflection and self-awareness, contextual studies can be seen as actively developing numerous useful and significant employability skills and attributes that employers require (demand) from students.

Moreover, contextual studies for AMD is timely in its promotion of employability attributes as employers are recognising the importance of human capital to their businesses. If the concept of a knowledge economy has any validity, undergraduate education has to comprise an

understanding of, and an ability to, research, analyse and reflect. To paraphrase Harvey (2003), with the emphasis less on 'employ' and more on 'ability', the contextualisation of studies now includes not only history and theory, but employability as well.

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Appendix

Knight & Yorke's (2003) extensive register of 39 loosely ranked employability skills.

A. PERSONAL QUALITIES

- 1** Malleable self-theory: (belief that attributes [*e.g.* intelligence] are not fixed and can be developed)
- 2** Self-awareness: (awareness of own strengths and weaknesses, aims and values)
- 3** Self-confidence: (confidence in dealing with the challenges that employment and life throw up)
- 4** Independence: (ability to work without supervision)
- 5** Emotional intelligence: (sensitivity to others' emotions and the effects that they can have)
- 6** Adaptability: (ability to respond positively to changing circumstances and new challenges)
- 7** Stress tolerance: (ability to retain effectiveness under pressure)
- 8** Initiative: (ability to take action unprompted)
- 9** Willingness to learn: (commitment to on-going learning to meet the needs of employment and life)
- 10** Reflectiveness: (the disposition to reflect evaluatively on the performance of oneself and others)

B. CORE SKILLS

- 11** Reading effectiveness: (the recognition and retention of key points)
- 12** Numeracy: (ability to use numbers at an appropriate level of accuracy)
- 13** Information retrieval: (ability to access different sources)
- 14** Language skills: (possession of more than a single language)
- 15** Self-management: (ability to work in an efficient and structured manner)
- 16** Critical analysis: (ability to 'deconstruct' a problem or situation)
- 17** Creativity: (ability to be original or inventive and to apply lateral thinking)
- 18** Listening: (focused attention in which key points are recognised)

- 19** Written communication: (clear reports, letters etc. Written specifically for the reader)
- 20** Oral presentations: (clear and confident presentation of information to a group [also 21, 35])
- 21** Explaining: (orally and in writing [see also 20, 35])
- 22** Global awareness: (in terms of both cultures and economics)

C. PROCESS SKILLS

- 23** Computer literacy: (ability to use a range of software)
- 24** Commercial awareness: (understanding of business issues and priorities)
- 25** Political sensitivity: (appreciates how organisations actually work and acts accordingly)
- 26** Ability to work cross-culturally: (both within and beyond the UK)
- 27** Ethical sensitivity: (appreciates ethical aspects of employment and acts accordingly)
- 28** Prioritising: (ability to rank tasks according to importance)
- 29** Planning: (setting of achievable goals and structuring action)
- 30** Applying subject understanding: (use of disciplinary understanding from the HE programme)
- 31** Acting morally: (has a moral code and acts accordingly)
- 32** Coping with ambiguity and complexity: (ability to handle ambiguous and complex situations)
- 33** Problem solving: (selection and use of appropriate methods to find solutions)
- 34** Influencing: (convincing others of the validity of one's point of view)
- 35** Arguing for and/or justifying a point of view or a course of action (see also 20, 21)
- 36** Resolving conflict: (both intra-personally and in relationships with others)
- 37** Decision making: (choice of the best option from a range of alternatives)
- 38** Negotiating: (discussion to achieve mutually satisfactory resolution of contentious issues)
- 39** Team work: (can work constructively with others on a common task)

Talking Results - trialing an audio-visual feedback method for e-submissions.

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Abstract

The importance of good quality, personalised feedback for students in higher education is well documented by authors such as Cottrell (2010). Feedback is regarded as a key indicator of student satisfaction in the National Student Survey, and an important indicator of teaching quality by the Quality Assurance Agency.

The decision to move to an electronic submission system at the University of Derby in the 2011-12 academic year led to a number of academic staff investigating alternative feedback methods. Across the University four different audio feedback methods were tested. This author trialed Jing, an audio-visual feedback tool, on a group of 40 undergraduate students on the BSc Hons Diagnostic Radiography.

The results of the trial were encouraging, after an initial adjustment period scripts were much quicker to mark, and feedback was more detailed and personalised to each student. Student views on the feedback were found to be positive. Drawbacks all related to problems accessing the feedback file. It is hoped to be able to continue using an audio-visual feedback method during 2012-13 academic year to provide richer feedback to students.

Introduction

All students enrolled on programmes of study in higher education should receive regular feedback on their work. Cottrell (2010) emphasises the value of this resource to students, and suggests that students should use their feedback as a basis for reflection and development. In order to do this effectively, she suggests that students should receive feedback that is of a high quality, and personalised to their individual student submission.

Student satisfaction with feedback from tutors is undoubtedly one of the key indicators of satisfaction with a programme of study. As such, it is part of the National Student Survey and an indicator of teaching quality for the Quality Assurance Agency for Higher Education. Getting feedback right is therefore a critical task for academics working in higher education.

The 2011-12 academic year saw the start of a process of phased introduction of electronic submission (e-submission) for written assessments at the University of Derby. A number of academic staff were interested in how they could use the opportunity to make their feedback more meaningful, useful and personalised for students, and agreed to trial a number of audio feedback methods for the University.

Audio Feedback Methods

Encouraged by advice that feedback could be given verbally in the academic regulations (University of Derby, 2012) the alternatives to traditional written feedback were considered. A small literature search was conducted, which indicated that other institutions had used audio feedback methods and had a positive outcome. Gould & Day (2012) reported positive feedback from students to their use of audio feedback, as did Lunt & Curran (2010), and Rodway-Dyer et al (2011).

A small group of academics agreed to trial several different forms of audio feedback for the university as part of the e-submission rollout. The group were given four options for providing audio feedback: the use of USB microphones, the use of smartphone / dicta-phones, the use of Jing software, or the use of a Motorola Xoom. All of the options would create an MP3 or MP4 file, which could be distributed to students via the University's Virtual Learning Environment (VLE) Blackboard.

This author chose Jing, a free software application, as it had the advantage of capturing both audio & a visual data, often referred to as a screen cast (<http://www.techsmith.com/jing.html>, accessed 22/11/2012). A screen cast allows tutors to look through a student's work, record their audio feedback, whilst highlighting the area being talked about in the feedback in the video element. It was felt that this would enhance the quality of the feedback, and provide students with much more information about the quality of their work. It was also hoped that by

recording a screen cast it would help to avoid the problems encountered by Rodway-Dyer et al (2011) who found students were sometimes unsure whereabouts in their submission the audio feedback was referring too.

Discussion

The author trialed the use of Jing on a group of 40 phase 1 undergraduate students who were completing a 1500 word written assessment. The assessment was a for the 'Working as a Professional' module, part of the BSc (Hons) Diagnostic Radiography.

The initial few scripts marked using Jing took considerably longer than usual to mark, as there was an issue around getting used to both the software and the process of marking on screen. This involved getting used to starting and stopping the recording so that valuable time was not wasted, as the free version of Jing that was being used in the trial only allowed a maximum of 5 minutes per script.

However, the software soon became familiar, and it was quickly evident that scripts were much quicker to mark than using the previous paper-based system. The paper-based system had required a lot of writing, and it was sometimes hard to ensure that feedback was taken in the supportive manner that it was intended. It was noticeable that the audio-visual method allowed far more detailed feedback to be collated far more quickly. This is backed up by Lunt & Curran's study (2010), which calculated that one minute narrating audio feedback was equal to six minutes writing feedback. The ability to annotate & highlight the areas referred to in the feedback so that students knew exactly which part of the submission was being talking about was excellent. This made the feedback far more detailed and personalised than the previous paper-based feedback system. The use of voice patterns and tone to ensure that comments would be taken as supportive and informative was also particularly effective.

Another advantage of the audio-visual feedback method was that it could be accessed on any device that had an Internet connection. The students in the trial were on a work placement on the date of the feedback release. This meant that they didn't have to make a journey into the university to obtain their feedback; they could access it via the University's VLE whilst on their placement. In their study, Lunt & Curran (2010) also note this advantage of an audio feedback method. However, it should be noted that with the move to e-submission it was also possible to provide written feedback electronically, and distribute it via the VLE.

However, no system is without its limitations, and there were a couple that should be discussed. The free version of the Jing software used in the trial had a maximum of 5 minutes recording time per submission. On occasion this was not long enough, particularly when recording feedback for weaker submissions. These submissions tended to need additional guidance on how the work could have been improved. A further limitation was that if a mistake

was made during the recording, for example, an incorrect grade mark for the piece of work, it could not be edited. The whole feedback had to be re-recorded, which was obviously frustrating. However, there is a more powerful version of Jing now available – Snagit, which does allow editing, and has a longer recording time per script, which would remove these problems.

A further limitation was that some students did struggle to access their feedback on placement, and had to wait until they were able to use their own device (computer/tablet/smartphone) to obtain it. This was for several reasons – either lack of internet access on placement, or a lack of access to speakers or headphones to hear the feedback. However, it is worth pointing out that students still got their feedback several days earlier than they would have done if they had had to come into university to collect it (the feedback was released on a Monday, and the students would not have been able to come into the university until their study half day on the Wednesday).

Student Feedback

In order to evaluate student satisfaction with the audio-visual feedback method all 40 students who received it were asked to email their comments about it to the module leader. 10 emails were received about the feedback method, all of which were generally very positive. Students acknowledged the additional level of detail provided in the feedback compared to written feedback they had received for other modules, and said that the ability to highlight areas during the recording was extremely useful. It meant that they were clear about exactly which section of the work was being referred to.

The negative comments all related to problems accessing the feedback on placement. This included one very understandable comment about lack of headphones being an issue, as that particular student did not feel comfortable listening to the feedback through speakers in a work area. One student also commented that they “had to listen all the way through the feedback to get their grade”. However, several other students identified that this as a benefit, as it made them pay attention to all of the feedback rather than just focusing on the grade that had been awarded to the piece.

Conclusion

In summary, the use of an audio-visual feedback tool like Jing enabled considerable improvements in the detail and hence quality of the feedback provided to students in the trial. It also enabled the feedback to be tailored so that it was much more personalised to each student and their submission. The visual element showed each student exactly which part of their script was being fed back about, whilst the audio element discussed the merits or shortcomings of that part. With e-submission being implemented for all modules across the

university in 2012-13, it is a tool that warrants continued use to provide richer feedback to students on the quality of their work. The use of the subscription version of Jing, Snagit, would be beneficial so that there is no time limit to recordings, and there is the ability to edit any mistakes.

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Towards a mobile learning strategy to support Higher Education

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Abstract

Mobile devices, in particular the mobile phone, are ubiquitous amongst the western world population. Worldwide, Universities are experimenting with the potential mobile devices offer for broadening teaching and learning opportunities and reaching more diverse, and technology aware, learners. However, where does this leave the less technology rich and what can be done to develop an equitable strategy to promote and support the advantage mobile technology might provide? This report discusses a number of case studies from UK and overseas HE institutions and gauges staff and student attitudes, at a Midland university, and their willingness to engage with mobile technology and content in an educational sense. The report concludes with recommendations to move forward which may be applicable to inform institutional policy and practice at other universities.

Key Words: Mobile technology, mobile learning, m-learning, mobile devices (or gadgets), smartphone (or mobile phone) learning

Introduction

International interest in the use of mobile technologies for teaching and learning is flourishing as evidenced by the World Conference on Mobile Learning (mLearn, 2011).

National research, focussing on higher education, is supported and promoted by organisations such as JISC (JISC, 2010) and the Open University (OU, 2011, p.4).

The Higher Education Funding Council's current Business Plan 2011-2015 (HEFCE, 2011) stresses "We will also maintain our commitment to widening participation in higher education, and to encouraging a diverse and flexible range of provision." The use of mobile technologies, including those typically owned by students such as the mobile phone, has the potential to enhance and diversify learning by making learning more inclusive, not time and location bound. The freedom offered by mobile learning opens up opportunities for work-based learners, learners with other (employment and otherwise) commitments and possibly learners with mobility issues.

Convenience, flexibility and freedom are characteristic of a mode of learning evolved for the busy and/or remote learner. However, defining m-learning in concise terms is not a simple task. "Formal definitions from European and Government agencies espouse its relationship to e-learning. Technologists place a high emphasis on novelty and the functionality of the devices (phones, PDAs, iPods, PSPs) themselves" (Winters, 2006, p.7). Traxler (2007, p.4) describes such definitions as "constraining" and "techno-centric" and observes, "For each learner, the nature of 'mobility' has a variety of connotations...it may be learning whilst traveling, driving, sitting or walking; it may be hands-free or eyes-free learning" and suggests, "How it is eventually conceptualised will determine perceptions and expectations, and will determine its evolution and future." Mobile learning may be described as:

"Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies." (O'Malley et al, 2003, p.6)

Mobile learning is not a new concept since any learning outside of the traditional classroom could be described as 'mobile', e.g. students on a field trip taking notes with pencil and paper. However, for this report's purposes, the culture being examined is that which takes advantage of 'modern' technology to support and enhance student learning both situated (e.g. in the workplace) and non-situated (e.g. travelling on public transport) outside of the traditional classroom setting. In this instance the technology cannot be entirely removed from the concept thus available mobile technologies are considered.

Technologies

Devices range from pocket-sized highly portable gadgets such as mobile phones and iPods to easily transportable appliances such as ultra-PCs and laptops. The range of capabilities varies both between devices and within device types. An iPhone is like a mini-computer, able to support advanced applications such as iStudiez Pro for managing student life (Apple, 2010), whereas many other mobile phones have basic characteristic mobile phone features. However, with the proliferation of new 'smartphone' features, such as internet browsing, "this gap has blurred" and "nearly all new phones would fit in this 'smartphone' label" (JISC, 2010c). Due to their ubiquitous and multi-faceted nature, offering communication capabilities; data and image capture; media playback and internet access, mobile phones hold great potential for deploying and creating teaching and learning content.

Other potential technologies include MP3 players, PDAs, e-book readers, games consoles. Whilst a PDA is a "relatively cheap" mini-computer offering "pocket versions of basic office software" (JISC, 2005, p.12), they have been somewhat surpassed by the advent of tablet computers. E-book readers and MP3 players are considered single purpose, i.e. respectively for reading and reviewing electronic books and playing music and audio files. However, some MP3 players have recording capabilities and can thus also support content creation and e-book readers can offer extra features including text-to-speech and web browsing. PDAs "can support dynamic group activities", without dependency on internet connectivity, "by the use of beaming" between devices, however, "conveying large quantities of information in text format" may prove "unsuitable" (JISC, 2005, p.30).

"Paralleling the development of PDAs, handheld games consoles are becoming far more capable computers....and are increasingly capable of delivering rich e-learning" (BECTA, 2008). The three main market competitors: Sony PSP (Play Station Portable), Nintendo DS and Nokia N-Gage, all are internet enabled albeit in the case of the DS with the application of an external ROM cartridge containing the Opera web browser. These handhelds offer educational potential with specific 'brain training' games, literacy, numeracy and language learning applications. The DS features a microphone for voice input and "wireless networking" allowing "DS consoles to communicate to other DS consoles in the local area" (BECTA, 2008). The successor to the DS, the DSi, enables handwriting directly onto its touch screen using a stylus "this function allows the user to write any script" thus potentially supporting non-European language learning i.e. Chinese/Japanese script (Narumi-Munro, 2010).

MP3 players, mobile phones and iPods can all host 'podcasted' lectures, interviews and other audio material useful for reviewing lecture material, listening to subject related reports, analysing and interpreting and revision.

Ultra-PCs and laptops generally have all the capabilities of a desktop PC, including connectivity enabling web access and communication where networking facilities exist – their disadvantage

being their physical size in comparison to other mobile devices. Many of the above devices, with the exception of MP3 players, have web browsing and communication abilities although collaborative work may be hindered by network availability, individual device capability and connection costs.

Issues & Barriers

Frequently cited issues concerning use of mobile technologies include favouring technically-savvy learners and problems with small screens and keyboards. Corbeil & Corbeil (2007) suggest the introduction of mobile technologies into learning "can create a feeling of isolation or of being out-of-the-loop for non-techies". Some devices may have screens that can be read comfortably, i.e. Amazon Kindle with its "e-ink electronic paper screen" (Naravane, 2010), or reasonable sized keyboards, e.g. netbooks. However, handheld devices, such as mobile phones, albeit greater on portability, have small screens, low image resolution and tiny keypads (Wang & Higgins, 2006).

Barriers to the implementation of mobile learning include resistance to change, sometimes through fear of failure, "Instructors often hesitate to integrate new products or technology into their courses without evidence that it will benefit student learning" (Brittain et al, 2006, p.2), and lack of faculty or institution support on the grounds of cost, human resources, physical estates, institutional reputation, intellectual property, expertise and culture (Traxler, 2007, p.10). While apprehension may exist within academia, and support and cost issues may be real, institutions have their 'pioneers' as evidenced by projects at Wolverhampton (Brett, 2008, 2009; Dale & Povey, 2009) and University of Edinburgh (Narumi-Munro, 2010; Hemmi et al, 2010) and they have their success stories to share and inspire.

Benefits

Where pertinent, for example for production of tourist heritage podcasts (Dale & Povey, 2009), the m-learning experience can be significant in its true-life application in addition to proving motivating and developing generic skills of relevance to the industry thereby promoting employability.

"Mobile and wireless devices have supported presentational, interactive and creative forms of learning" (JISC, 2005, p.9) Visual and auditory learners can be assisted via support for video and audio multimedia and kinaesthetic learners may benefit from activities involving practical application of mobile technology e.g. podcast creation. Associative learners may be supported by the deployment of bite-sized learning resources, guided instruction and quizzes direct to a mobile device; constructivist and social constructivist learning can be facilitated through the ability to capture data in the field, practice simulations e.g. on gaming devices and amass evidence and data, supported by connectivity enabling conversation and collaboration, to build knowledge. (JISC, 2007) The ability to usefully employ mobile technology 'in the field' for

example for work-based learning, e.g. student nurses building e-portfolios for reflection (Nicholson, 2008), or just-in-time learning, where the required information is delivered to the recipient at the point of need, aids situated learning.

Mobile devices enable tutors to provide spontaneous feedback, and personal learning activities, to whole cohorts, groups or individual students (Narumi-Munro, 2010), "learners and users regard handheld devices as far more 'personal' than the equivalent static or desktop devices" (Traxler & Kukulska-Hulme, 2005), communication is generally more immediate and, according to Horstmanshof (2004) "private and handy".

"A powerful benefit of mobile learning is that learners do not have to be separated from their day to day commitments. As learning becomes situated in a wider variety of locations, the potential for cross-fertilisation of ideas and values increases, as does the potential for learning to become an attractive pastime for a greater number of people" (JISC, 2005).

Case Studies

The following case studies illustrate how different Universities have incorporated mobile learning and highlight both the positive and negative aspects of the student experience.

Charles Sturt University, Australia, conducted a project "to examine how podcasting can be used to address the preconceptions and anxiety that students bring into the University classroom" on the premise that "Short preclass listening segments...are more effective than Web or print-based prereading". Podcast length was based on average travel time to campus and current and previous cohort students were involved in producing the "talkback radio-style episodes" with the lecturer or other "guest" being brought in to "offer insight into, or clarification of, the more complex or difficult topics and issues." Almost all (96%) responded positively to receiving the 3 to 10 minute pre-class listening podcasts, however, only 50% reported having access to a portable MP3 player, the others only having access on a PC (Lee & Chan, 2005).

Dale & Povey (2009) describe a project within a third-year undergraduate module at Wolverhampton University, Heritage Management, whereby student groups produced podcasts for various heritage attractions for use as visitor guides. A reflective element involved keeping a weekly blog of their learning experiences. They purport, "The students in the study acquired a skill that they can take to a prospective employer" and as students had to "understand the subject material before applying it to the heritage attraction" this enabled "a deeper theoretical understanding of the subject matter". The students "presented their podcasts as part of a formative assessment and were invited to comment on the podcast creations of their peers". Reactions were mixed:

“When writing an essay you look at it just from the theory and management perspective. With this you look from the consumer perspective and really start to understand what they want to know”,

“the majority of the practical podcasting sessions were concerned with making the end product, rather than engaging deeper into the subject at that time.”

Other concerns related to lack of familiarity with the technology and limited access to hardware. Students were also dismayed at not receiving summative grades for their work.

The University of Wolverhampton, in a pioneering University-wide JISC funded project, MeLAS (mobiles enhancing learning and support) investigated the “value of SMS for learning and teaching” by applying it for one way (staff to learner) communication, formative assessment with feedback and collaborative learning. Formative assessment questions comprised True/False, multiple choice and free text response with a voluntary maximum of three questions per set to avoid overload. The project team extended the SMS texting capability to 5 texts length, i.e. 800 characters, and the project resulted in the development of software enabling any member of staff to communicate with any student/student group “without the need for exchange of mobile phone numbers.” (Brett, 2008) Despite the low ‘opt-out’ rate (just 73 from 1121 students) a significant number of students had negative or neutral reactions: 95 vs 27 found the texts to be “useful” but with 70 undecided; 67 vs 49 (70 neutral) considered the text messages “helped my learning”; just 80 compared to 67 (60 neutral) “like using my phone for mobile learning”. Only 20% of students who received formative quiz style messages completed them, 47% engaged with but did not complete the assessments although 47% of respondents claimed “taking part in a quiz (or many quizzes) helped my learning.” Discontent arose from: sensitivity regarding “intrusion into personal time”; “culture of immediacy” i.e. students felt texts should be responded to immediately (unlike emails which can be ‘mulled over’); “costs”; “lack of perceived pedagogic benefit” perhaps due to the novel ‘quick quiz’ nature of the texts. Despite concern over costs, students expressed a desire to be able to text tutors particularly for e.g. situations whereby they might be late for a lecture. Where students felt texts were helpful was for administrative communications and learning support. (Brett, 2009)

Attesting predictions of BECTA (2008) concerning hand held games consoles and their ability to support rich e-learning, a unique project (HANABI), developed at the University of Edinburgh, exploited the educational potential of modern gaming devices by supplying Nintendo DSi consoles to third year students studying for an MA Honours in Japanese for use on their exchange year in Japan. The devices enabled: creation of an online student community; connection across the host institution and thirteen Japanese universities; provision of Japanese language learning exercises; swift feedback; student monitoring and support; sharing of both written and spoken Japanese between peers and tutors (Narumi-Munro, 2010). Preliminary feedback from HANABI exposed mixed feelings. Fifteen responses, from a possible 23, were

collated from an online student questionnaire. Nine respondents had participated in the Nintendo DSi language exercises: five "keen" learners used the DSi regularly (twice weekly or more), engaged in other activities (gaming, hobbies etc.) and responded quickly to tutorial activities; four "moderate to low" users responded to some exercises. Four "keen" and one "moderate" user owned and were familiar with Nintendo DS consoles. One non-user had prior experience, however, due to problems with the study environment, i.e. had to "pay for coffee" in order to obtain a connection, did not engage. Only one respondent found "responding to the tasks...too difficult", main barriers cited were "lack of time due to heavy workload at the Japanese Universities", "busy social life", "difficulties in accessing/connectivity", "no interest in using a DSi" with one student protesting, "*It is a child's gaming system and having to access it in academic buildings is embarrassing...*" (Hemmi et al, 2010)

Mobile learning need not be large scale or involve novel technology. In a situative learning initiative at Bangor University fifty-seven, mainly female with fifty percent mature, student nurses were provided with laptop computers with a wireless local area network (LAN) for use at the University and a modem link for use on placement and at home. "Student nurse training, and nursing in general, is an oral-based discourse usually conducted face-to-face in a ward or practice environment" thus "students were used to conducting discussions, but not in an online environment". Colloquia software was provided for the purpose of discussion and a web browser for access to resources. Templates were provided to assist students in "building a body of evidence" of their nursing skills and students worked in groups of 8 to 10 for the purposes of discussion. The project aimed, in addition, to develop the students' ICT skills and confidence. (Nicholson, 2008)

The progression of mobile learning projects as above and at other UK, and worldwide, Universities, prompted the following research into how mobile learning might be integrated and supported locally.

Research

The research focuses on observations regarding current work with mobile technologies and patterns of usage and success to form a hypothesis regarding what might work at the University.

Research questions are:

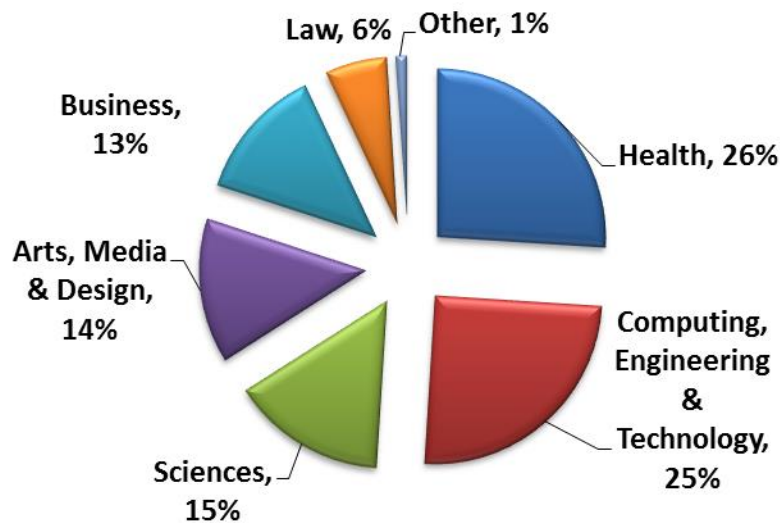
1. Can mobile devices, including students' own, be exploited to enhance and diversify learning?
2. Where might the employment of mobile learning be beneficial and appropriate and how might the institution's virtual learning environment, Blackboard, support its deployment?

3. What is the current level of interest in, involvement in and awareness of utilising mobile devices for teaching and learning and what are the perceived or encountered barriers?
4. What tools and technologies are available that could be affordably and feasibly employed to support mobile learning?
5. How can mobile content and devices support diversity in learning styles and abilities?

An online, anonymous survey was used to determine the level of staff involvement, at the University, and gauge academic staff attitudes, confidence/skill levels and willingness to engage with m-learning. Respondents, who have employed m-learning techniques, were given the option to volunteer for a follow-up interview

A subsequent student survey was emailed to all students regarding student usage of mobile devices and opinions concerning mobile services students would, or would not, like the University to offer.

92 members of staff, representing roughly 12% of the academic staff population, responded to the staff survey, distribution as below:



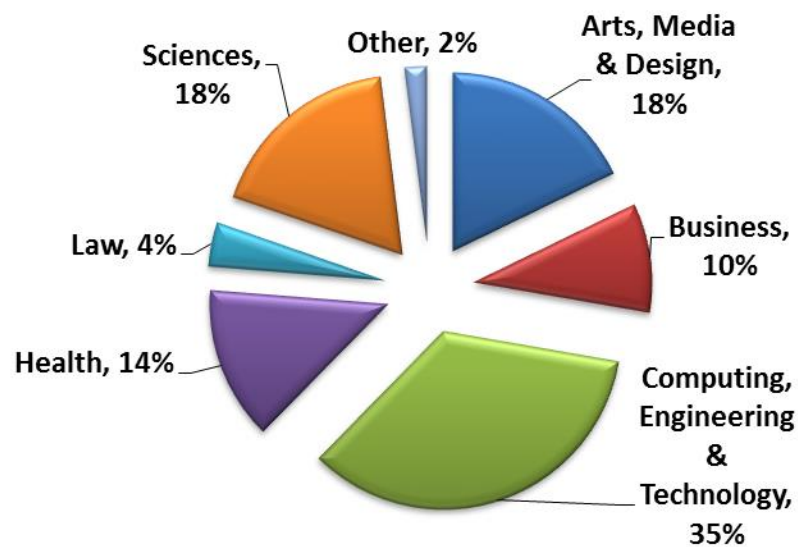
In addition six members of staff agreed to subsequent interview: 2 FCET (Faculty of Computing, Engineering and Technology); 1 Law; 1 AMD (Arts, Media and Design); 1 Business; 1 Health.

Contributors to the survey comprised a total of 77 lecturers, mostly senior (44) with some principal (8), 4 Professors, a Director and an E-learning facilitator. 67% being full time and 33% part time.

28 contributors responded positively to having used mobile technology or mobile accessible content in a teaching and learning context with their students: 8 Health; 7 FCET; 4 AMD; 4 Business; 2 Law; 2 Sciences and 1 International Student Office, 36% being in the 30 to 40 year age bracket, 29% 40 to 50 years and 36% over 50 with equal numbers of male (13) and female (13) participants reporting having engaged with m-learning.

Popularly used devices were digital media (MP3) players (12), mobile phone (9) and Smartphone (7). Tutors used mobile content with student cohorts from less than 10 to 100+ but mainly between 10 to 30 students with content mainly provided for traditional full-time students but also for part-time, distance, work-based and international. Most tutors had provided podcasts or mp3 audio or video material for their students, via Blackboard, YouTube or iTunes U, with some having used texting as a way to communicate with students and/or encourage students to communicate with one another.

1,612 students responded to the student survey with 1,365 completing it. Most responses, 35%, came from Faculty of Computing, Engineering and Technology:



Respondents were near half female (47%) to half male (52%) with most being under 30 years of age (79%) and full time (82%). 74% of students were studying primarily face-to-face modules, with just 8% mainly online and 17% combined/blended.

95%, of 1,599 students, own a mobile phone with 60% or more owning an mp3 player, laptop, digital camera or gaming device. 37% owned a Smartphone³. The least popularly owned devices were iPod/ iPod Touch (29%), digital audio recorder (16%), palmtop/pda (4%) and e-reader (4%).

The majority of 1,567 respondents (70%+) have internet access on their phone with 29% having no access or being uncertain. Laptops are popularly used for engaging with social networking sites (1,366), instant messaging (1,049), uploading media (video/photo) (1,309), watching videos and live TV (1,323), using wikis/blogs (1,043), downloading podcasts (619), participating in online discussions/chat rooms (886) and maintaining own blogs/websites (540). Less commonly, mobile phones are used for access to social networking sites (820) and uploading video or photo content (522). Smaller numbers of students use phones for other functions and use other, e.g. gaming, devices, for the functions listed above:

The majority of respondents (in excess of 1,290), in keeping with Brett (2009) findings, are interested in receiving course related information via their mobile device, e.g. exam and course timetables, deadline notices, messages concerning course. A large number (1,236) would also find accessing Blackboard useful or very useful. Supplementary information, such as alerts relating to IT services, library, campus maps, pc availability, University directory and fee information was also considered valuable.

A frequently expressed concern, for staff, and most expressed by students, concerned frequency, timing, quantity and expectations regarding responding if tutor to student, and vice versa, texting were to be introduced. The perception of a "culture of immediacy", as documented by Brett (2009), is evident amongst the students, one survey respondent commented "It [SMS texting] cannot be used as a mechanism to ensure students receive information instantly and respond instantly, outside of university hours."

Tutors were concerned with overload with regard to dealing with text responses in addition to email:

"It's bad enough dealing with emails without adding all this lot on top." (staff survey comment)

Horstmanshof (2004) reports this attitude as pertaining to "Older, more traditional colleagues" who complain "they are already swamped by burgeoning email inboxes" and "label the approach as 'mothering'" warning that "it is likely to lead to dependency." However, there is little evidence from the staff questionnaire to suggest there is more negativity amongst mature colleagues, indeed a significant number of respondents (18) over 40 are, or have been, actively involved with m-learning, some of whom (8) have specifically used texting.

³ A Follow up student survey (December 2011) has indicated that smart phone ownership has increased by 35% to 72%. This has had the effect of up to 6% increase in using mobile phone for various activities such as social networking.

In relation to the use of mobile phones, both staff and students expressed concern regarding the “blurring” of the “line” between academic and personal life. In addition one tutor felt that the “closeness to leisure activities might make it appear less important.” Wang & Higgins (2006) state, “Mobile phones will mainly be used for communications with other people, not for learning purposes” and Traxler (2010) purports, “These devices are personal, universal and closely linked to identity”.

For educators to infiltrate students’ personal communities could be viewed as an unwelcome intrusion, indeed many students (57) and a number of staff (5) specifically expressed concerns regarding privacy from both their own and their recipients’ point of view. In addition 43 tutors (against 17, 19 neutral) responded positively to “Making use of students’ own devices, such as mobile phones, can be viewed as an intrusion and brings up privacy issues.” However, as with our non-digital lives, there is perhaps a balance to be struck and mutual respect to be developed.

Despite reservations, from both sides, a number of staff (15) have employed (or are not averse to) texting and a large majority of students are happy to receive texts from tutors. Slightly less student respondents are happy to text/respond to tutor texts:

	Yes	No	Maybe
I would be happy to receive texts from my tutor	957	147	322
I would be happy to text my tutor	936	188	302

Equity of access, regarding device ownership, affordability and technical ability (JISC, 2005 & Corbeil & Corbeil, 2007) are concerns shared by both staff and students. Students, acknowledging the lack of standards between devices (Traxler, 2010), expressed that materials should not be device specific, and tutors were concerned that some of their students might not be able to access materials designed for mobile devices:

“I’m concerned that students might not be able to afford the technology - not all students have up-to-the-minute mobile phones or iPods” (staff survey comment)

However, m-learning related costs have not proved a major inhibiting factor. Although staff expressed concerns regarding device purchasing and operating (e.g. sms texting) costs for students, only one tutor specifically expressed concerns relating to affordability for staff:

“students usually have better equipment than we can afford” (staff survey comment)

For students, cost (of receiving/responding to learning related materials) was a significant concern (34 specific cost related comments) but not as much as other issues of information overload, privacy, security and accessibility.

Low awareness of the possibilities, how mobile learning might 'fit' with their subject and availability of guidance have hindered uptake:

"I feel that it would be more suitable for some subjects than for others" (staff survey comment)

"There is a low awareness" (Interviewee 2)

"There isn't much guidance or knowledge" (Interviewee 4)

There is some belief that m-learning constitutes only "superficial" or "lightweight" learning.

Practical technology related concerns were evident, i.e. connectivity and signal availability, and dissatisfaction, amongst both students and staff, regarding the University's Airnet WiFi system is palpable:

"There are loads of hotspots ... but if i'm walking from one place to another, my phone keeps dropping the signal" (student survey comment)

"the fact that Airnet is so bad so we cannot really use the kit to demo much..." (staff survey comment).

Students, and staff, also reported difficulties with connectivity when overseas or in broadband poor areas.

There is considerable interest, amongst both staff and students, for pursuing mobile options for Blackboard. 93% of staff are either definitely or "maybe" interested in providing mobile content for their students via Blackboard and interviewed tutors were particularly interested in podcasting and communication (such as texting) options. Access to Blackboard ranked 3rd amongst potential mobile services students most desired, surpassed only by "course information, deadline notices and messages about course" and "exam and course timetables".

Although 133 students specifically stated their preference not to receive learning content via their mobile devices, 292 students explicitly declared they would be happy mainly for reasons of convenience and improved communications:

"yes, i'd be extremely happy as i could then check my emails and blackboard on the go instead of walking over to the library to check them."

“yes it would make communication a lot easier and a lot quicker and effective” (student survey comments)

Conclusions

Course and supplementary, such as library and IT, information provision would potentially prove popular with students. In addition most students, albeit with reservations, are not averse to receiving course related information and alerts via text. Recurring concerns, for both students and staff, of privacy and security; volume, frequency and timing of messages; expectations regarding student responses, need to be addressed.

There is little evidence of stimulating, interactive and engaging teaching and learning with mobile devices akin to projects described by Dale & Povey (2009), Narumi-Munro (2010) and Nicholson (2008). Current provision resides mainly in the area of non-interactive instructional and informational audio and video. Advantage is not being taken of the “portability” and “spontaneity” (JISC, 2005) m-devices offer in particular with reference to less available students such as work based, part time and distance. The provision of passive recorded learning materials is unlikely to support the diversity of learners studying at the University and could account for some lack of understanding, and enthusiasm for, m-learning amongst the student population.

There are pockets of experimentation with mobile accessible content but no coordinated institution-wide initiative is evident. While JISC (2005) advise, “Building a 21st century model of learning involves all members of the institution in a process of change that requires more than short term, small scale projects”, they also acknowledge, “mobile technologies can first be deployed in niche areas where the gains and drawbacks can be experienced with less impact.” Small scale, not dissimilar, projects are taking place throughout the faculties but corroboration and inter-faculty dissemination is sparse thus, as an institution, progress towards workable solutions is inhibited.

For students to fully engage with learning there needs to be obvious benefit, “as with all technology but especially a new one, the use parameters need to be negotiated with learners. This means an explanation of its value, an explanation to ensure full learner awareness of the technology and the learning benefits of engagement” (Brett, 2008). Involving students in the development of a project, from the beginning phase through to evaluation, is more likely to generate positive engagement (Lee & Chan, 2005). Minimal learner involvement in mobile material development might lead to a casual attitude to its use and, for traditional learners, a more methodical approach might be appropriate: “In an m-learning environment, the lack of a firm framework tends to encourage laziness; therefore a strict self-discipline, which many adolescents lack, is required” (Wang & Higgins, 2006). Nicholson (2008) advises the setting of “ground rules” and negotiating a “learning contract with the student” and, in retrospect,

suggests activity might be more prolific if assessed. Students have expressed dissatisfaction when time and effort dedicated to a learning activity has not contributed directly to their summative assessment. (Dale & Povey, 2009)

Student feedback from other institutions has been largely positive (Lee & Chan, 2005, Brittain et al, 2006, Nicholson, 2008) and, where reactions have been mixed, students have appreciated the privileged position afforded them:

“students were excited by the prospect of creating podcasts as this was a new type of activity that they had not previously engaged in.” (Dale & Povey, 2009).

Academics need access to support and resources including case studies, guidance, advice and training and students require support and inclusion to make m-learning work.

University-wide awareness should be encouraged to break down unnecessary University, faculty or individual imposed barriers such as those pertaining to culture and resistance to change (Brittain et al, 2006; Traxler, 2007). However, m-learning cannot be enforced, but offered as an option to be implemented where appropriate and where tutors have the confidence and facility to execute effective learning activities that are relevant and align with realism, learning outcomes and ultimate assessment.

University policies must be negotiated and implemented regarding mobile access to University networks (JISC, 2005), terms of communication (Brett, 2008), and external hosting of in-house developed materials e.g. on sites such as YouTube and iTunes U. A University policy for sms texting might be deemed too restraining by staff and students who wish to keep communication channels open beyond the working day. An alternative solution might be to provide guidelines and allow tutors to form their own agreements with individual students and cohorts. However, it is clear that negotiated terms should be adhered to, staff and student privacy respected and an “opt-out” option made available

Younger students already exploit the interactivity and share-ability offered by web 2.0 technologies, such as blogs, wikis and image sharing. Their interest and expertise provides scope for potential m-learning experiences (Dale & Povey, 2009). Mature students might feel disadvantaged by tutors engaging such methods, who may be viewed as favouring traditional students. However, students (of all ages) bring different skills and experience to University and it could be argued that learners at higher education level, should expect and be prepared to learn new skills. Universities are also beginning to offer alternative options for learning and assessment providing students with choice and control. Waterfield and West (2010) argue that “Accepting and welcoming the diverse student population requires that staff take cognisance of the breadth of student cohorts and develop and deliver a representative curriculum ... that reflects the complex mix of individuals that make up a class in a programme”. The Waterfield

and West auditing tool (2011) provides a template for Universities moving towards inclusive and diverse assessment.

Moving beyond the provision of recorded materials into the realms of interactivity, collaborative learning, problem solving and personalised feedback might seem daunting to the novice practitioner. Projects, such as HANABI (Narumi-Munro, 2010; JISC, 2010b, Hemmi et al, 2010), using specialist equipment and a dedicated team appear unreachable, however, more attainable ventures, such as heritage podcasting (Dale & Povey, 2009), can be deployed using inexpensive equipment (such as Flip camera) and relatively basic training.

Learning solutions that take advantage of students' own devices should be cross platform i.e. widely accessible from commonly owned devices. While this might seem somewhat preventative, previous case studies (Dale & Povey, 2009; Brett, 2008; Nicholson, 2008) have demonstrated that specialist tools are not always necessary.

With more innovative use and options developed through add-ons, such as Baylor Podcast and ConnectYard (Blackboard, 2010a), the University's VLE could prove a useful platform for the hosting of potentially m-learning resources. Considerable interest, from both staff and students, for mobile Blackboard options justify development in this area, however, the cost of incorporating Blackboard Mobile fully, i.e. Blackboard Mobile Central (Blackboard, 2010b) and Blackboard Mobile Learn (2010c), could prove prohibitive. Other, possibly more cost effective, options such as CampusM (oMbiel, 2009) for hosting University and course information and RedHalo (RedHalo, 2011) for collaboration and hosting of learning materials and personal learning spaces could be considered by the University.

Providing tutors with guidance, awareness, tools and training, and enlightening students to the benefits that might be derived, empowers the former to make informed decisions about m-learning and how it might fit with their teaching and the latter to judge how they might benefit from embracing m-learning opportunities.

A profitable starting position, in terms of institution-wide engagement would be to provide mobile available supportive resources such as timetables and exam dates. "The introduction of mobile and wireless technologies in a phased process, starting with the development of resources on a learning platform ... is more effective than uncoordinated experimentation" (JISC, 2005) This appears to vie with the notion that mobile technology should first be deployed in niche areas (JISC, 2005), however, outputs from "niche area" projects should be brought together to inform practice alongside "senior management" supported development of University wide initiatives culminating in an institution wide "drive towards innovative practice" (JISC, 2005).

M-learning pedagogies are evolving and it might not be appropriate to apply methods pertaining to a "computer based environment" (Brett, 2008) to the more organic, less static, m-learning environment. There is no doubt that with reliable technologies and academic willingness, m-learning can support a range of learning styles: "connectivity on location enables more emphasis on discovery-based, problem solving and collaborative learning" (JISC, 2005); "Text messaging is an example of a student centred, personal approach" (Horstmanshof, 2004); "Technological innovations in the form of portable media players...have enabled learners to adopt a more active approach to the creation of knowledge..." (Dale & Povey, 2009).

While some may not feel ready for a 'mobile revolution' in higher education, the impact m-devices have on student life and the potential for broadening learning cannot be ignored. Worldwide, HE institutions are experimenting with and exploiting the power of m-learning: "Universities and colleges will continue to work in fiercely competitive markets, regionally, nationally and globally and will have to exploit innovative mobile technologies within their corporate strategies" (JISC, 2005, p.44). It may be a concern that less technical students and staff might feel estranged, however, students and staff confident with technology already have an advantage (i.e. they are exploiting the 'edge' their technology gives them). It is a responsibility of the institution to bring the less technical 'up to speed' rather than shy away from advances for fear of displeasing those who might choose to eschew.

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Teaching Android development using eLearning material in a traditional Java programming course

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Abstract

World-wide some 152 million smart phones were sold in the first quarter of 2012 with a 49.9% increase from the year before (IDC, 2012). An important aspect of this popularity is the wide range of specialised programs known as apps that phone owners can readily acquire and install. For instance the number of apps on Google's play market for the Android platform has almost doubled within a year to just under 500,000 apps (Appbrain.com, 2012) and the amount of apps is often used in advertising as a major selling point for phones (Apple, 2012). It is therefore important for students' employability to gain skills in app development. Educationalists are starting to teach aspects of app development, for example developing workshops to aid learning the skills necessary to use the Google App Inventor tool (Abelson, Chang, Friedman, Lomas, & Wolber, 2010) (Hsu, Rice, & Dawley, 2012).

In this paper the author reports on their experiences of embedding an online tutorial on mobile Android programming development into the curriculum of a traditional second level undergraduate Java programming course. The distribution of the resulting marks did not follow the traditional distribution of a normal curve, and reflections on this unexpected distribution are provided.

The original online tutorial

In the summer of 2011 it had become clear that mobile phone development was becoming increasingly important, and that there was a lack of this in our curriculum. An online tutorial (Lundqvist, 2011) was created for a two day extra-curricular workshop; the tutorial was based on the author's experience of Android games development and consultancy. The tutorial was presented as five posts that takes a student with basic programming skills from first steps to a having developed a simple ball game. A dozen students were expected to undertake the course, but forty-four signed up. Most students readily created the simple game, and some started to develop more complex apps that they continued working on in the following academic year.

Embedding into Java Programming Course

The Java programming course had previously been taught as a 10 credit (single term) module to second year Computer Science students, and it had been decided to increase it to a 20 credit (full year) module to allow students to improve their programming skills, coupled with including mobile phone programming in the curriculum. The e-Learning material developed for the extra-curriculum was re-used to provide 6 hours self-study which could be undertaken within supported lab classes. The lab work was complemented with 6 hours of lectures presenting challenges and pitfalls of general Android development. The students were then set an assignment to develop a personalised version of the traditional 'breakout' game.

There were eighty-three students on the module. The lab sessions each had three teaching assistants and a lecturer to support the self-learning session. These sessions were not well utilised, with only ten to twenty students using them, however from the server statistics it was clear that the students were using the online material extensively. For instance the number of pageviews increased by 110 pageviews on average per day in the period the students worked on the assignment. There are no other known reasons to explain this increase. Assuming this peak in usage primarily occurred because of the course work, approximately 6400 extra pages were shown to students, resulting in an average of ~75 pageviews/student. Therefore an average student would visit each page on the online tutorial in total ~15 times.

Results and Reflections

Of the 83 students 11 did not return the coursework and 14 students had very low marks (fail or non-honours level), however 20 received 1st class level and 16 got 2.1 class level marks. This resulted in a reversed normal distribution with peaks on each end of the scale and an almost "perfect" average of 50%, with fewer than expected students receiving marks around this average. Seemingly the good students had managed to become better than normal and the lower end students had struggled.

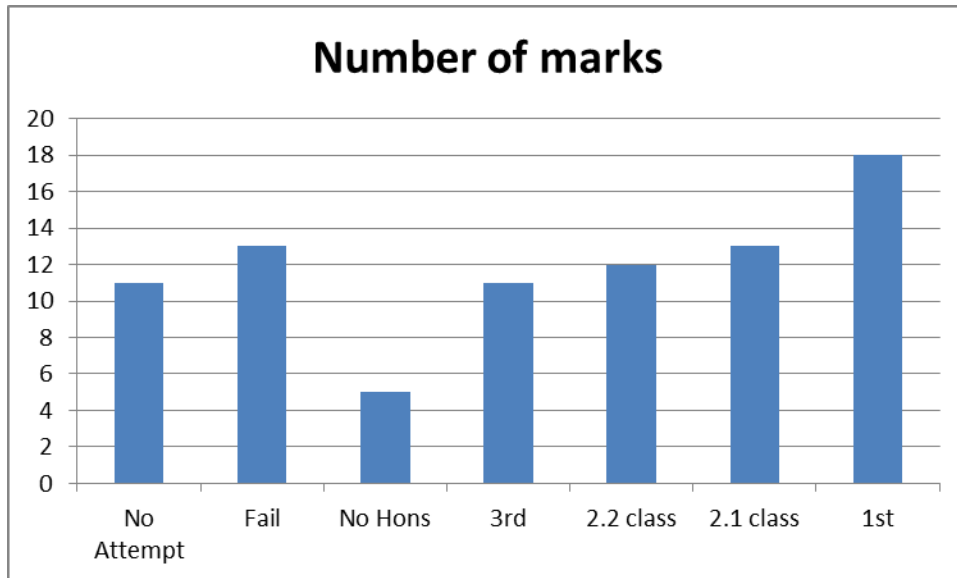


Figure 1: Distribution of marks

There are several factors that might describe why this happened, which will be discussed in the following.

Enthusiastic students

There were a group of students who were thrilled to develop for mobile phones, especially a game, as evidenced in feedback forms, informal discussion after classes, observed discussions among students, and evidenced by colleagues talking to students in their modules. There was evidence of a community of learners being developed, and this generated a positive feedback mechanism within the group of interested students (Thoman, Sansone, & Pasupathi, 2007).

Some students admitted they had spent more time on this to the detriment of other work. It was also clear from the resulting games that many of the students focussed too much on elements that were not assessed, for example the aesthetics, which were not an assessable outcome of this module.

- Is it possible to make course work too interesting or fun for students that they get distracted from what they need to learn?
- Should a non-game exercise be used to limit this?

Difficult combining self-learning with taught material

The Java module is a second year module, and therefore all of the students have followed the first year programming module (equivalent to CS0 in the US). For many this was their first experience of self-study, and some had difficulty linking the theory taught in previous lectures, both in Java and other programming modules, with the self-study to achieve the necessary skills to complete the coursework. Seemingly the expected prior knowledge built up before this

learning experience was not well established for the individual student, which according to (Biggs, 2003) means that the student is unlikely to use a deep approach to their learning.

- Is it reasonable to expect that second year undergraduates students can combine self-learning and taught theory within a short time scale?

Timing issues

Because the framework for the final game was given within the online eLearning material it was decided to have a short deadline on the coursework (some twenty days after the last lab session), which some students had difficulty in meeting. Many said that the transition from developing everything themselves to using somebody else's code as a basis had been more difficult than they anticipated. This could also be observed within the lower scoring student's work, as it was clear that they had to stop working before finalising their work.

- Would it help students to give them longer time, or would they procrastinate?

Conclusion

The use of Android and the online eLearning material within the Java Programming module was a success from the aspect of students' enthusiasm and participation. There were issues with doing it, especially for the poorer students who perhaps struggle with combining self-study and taught material. Additionally some students focussed on non-assessed aesthetics of the game to the detriment of assessed aspects. These aspects contributed to an unexpected distribution of marks. The timing of deadlines might also have contributed to this, and the lecturing team will try and improve on this, and emphasise the connection between online material and lecturing content in next year's module. It is being discussed whether the coursework should become a non-game exercise to help the students focus on the real learning outcomes, however it is feared that some of the positive enthusiasm might be lost from the module.

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Enhancing student induction to library and IT services in higher education

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Abstract

Student induction to library and IT systems in higher education is challenging. Students complain of information overload and often remember little detail. The Academic Support, Technology and Innovation (ASTI) team at Plymouth University set out to combine their skills to produce a memorable welcome talk and a professional set of online materials and support to provide the details needed to become course-ready. This paper outlines and evaluates the approach taken.

Background and Rationale for approach

It has been well documented that it is challenging to make the student induction to library and IT systems effective and memorable. As Trefts and Blakeslee (2000) point out, library instruction, although important, can be boring to deliver and to listen to. At Plymouth University, we had started to develop an "industrial model" of library induction to ensure consistency but we needed a different approach; one which students would not be expecting to grab their attention.

"The unexpected is a great way to bring humor into the classroom. The unexpected plays off the element of surprise, which is really what comedy is all about. It works because it startles or shocks the students to attention. It can also be a good way of challenging the stereotype of the librarian as a passive, calm, mild-mannered individual" (Trefts and Blakeslee, 2000, p.375)

As part of our research, we examined pedagogical approaches which could enable us to enliven our initial input. Baid and Lambert (2010) discuss the use of games or other fun activities as teaching strategies and it was felt that this would be ideal for induction or welcome week. Race (2002) highlights the need to move away from traditional chalk and talk teaching to allow students to become active and participate and there is a wealth of examples of creative library inductions which incorporate these theories. Morgan and Davies (2004) pioneered the Cephalonian method; others have used video, i-pod or Prezi tours (Potter, 2012) or tours based on murder mysteries (Else, 2013). Hassanien and Barber (2007) have discussed the importance of the social aspects of induction and that activities should appeal to students and encourage social integration; helping to break the ice.

To engage and motivate the students, we decided to develop a quiz show format for the face-to-face part of our induction, delivered in lecture theatres by the team of Information Specialists. Having surveyed the first year undergraduates about what they needed to know within the first three weeks of their course to get them course-ready, we realised that previous inductions had had such a low impact that many students had forgotten them. Our primary aims were to make the students remember the induction and view their information specialist as approachable and fun. Any detail about using the Library or IT systems could be provided in a follow-up online tutorial. With these aims in mind, we developed a "Pointless" style quiz, based on the show broadcast on BBC1. Teams would compete to answer library and IT questions with the aim being to find that all important Pointless answer that none of the 100 people questioned beforehand knew.

Working group

A development group was established to investigate the way forward and tasks assigned to each member of the group (see Figure 1).

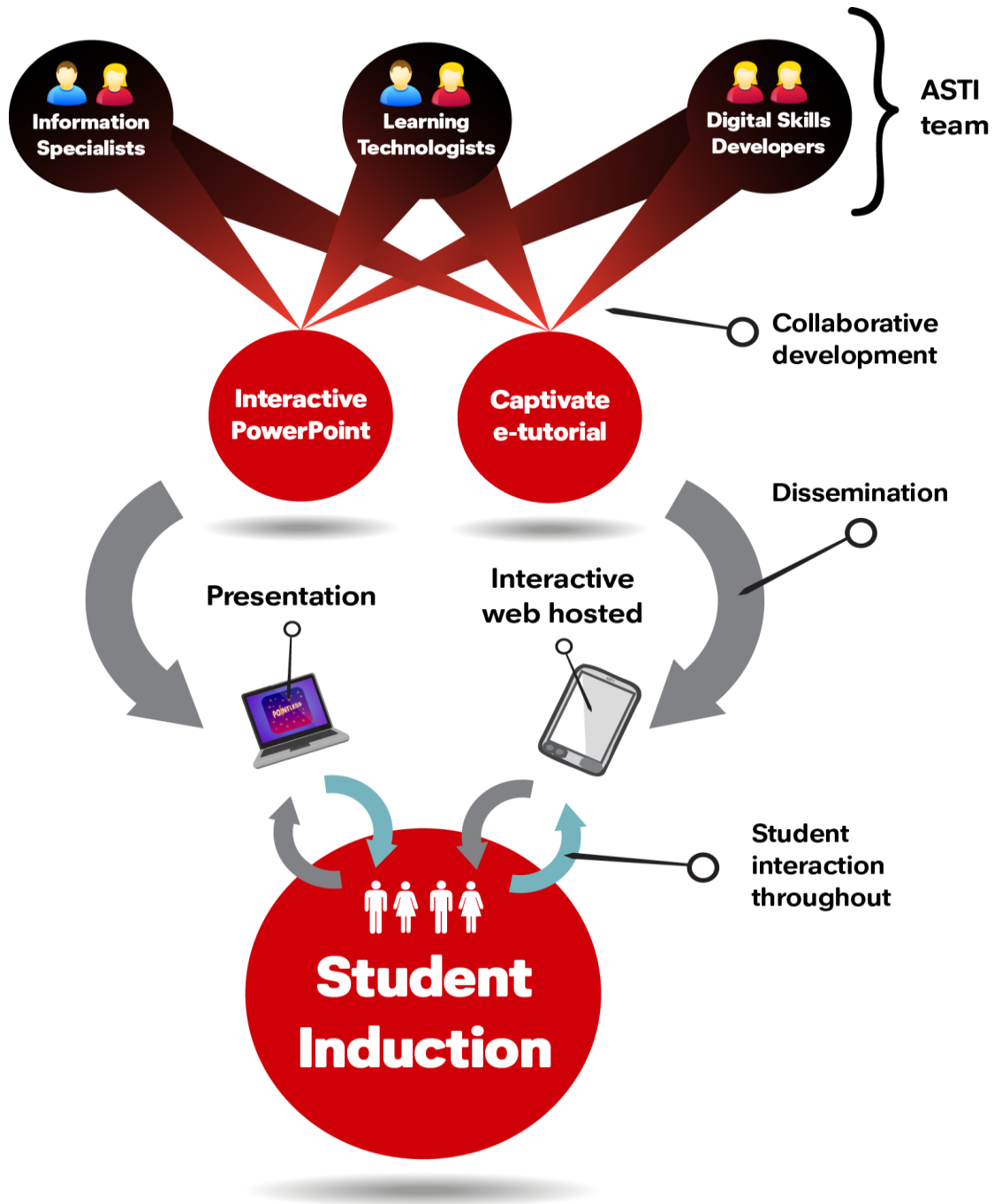


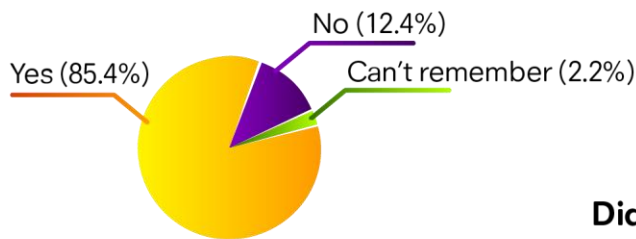
Figure 1: Showing the process of collaborative development, dissemination and student interaction of bespoke digital induction materials.

At the end of the first term, students were sent a link to an online survey requesting feedback on the success of all four strands. 89 students completed the survey. The free comments were a mixture of positive and negative (Figure 2); some students preferring a library tour or a “boring talk” while others enjoyed the fun aspects of the quiz and made suggestions for improvement.

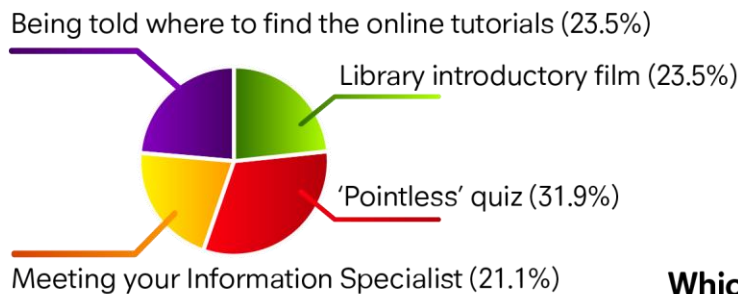
It was interesting to note that of those who said that they had attended the face to face welcome, the Pointless quiz was the most memorable aspect (Figure 3). It was fun to deliver, although it did depend to some extent on group dynamics. Comments suggest that its management with larger groups needs more thought to ensure that all team members can participate. However, the aim of providing something memorable was largely achieved.

Part 1 - Induction Quiz

n = 89



Did you attend the welcome week library and IT Induction?



Which aspects of the session do you remember?

Figure 3: Feedback on welcome talk

Although not all had completed the online tutorials, a majority of those who did agreed or strongly agreed that their confidence in using the library and the IT systems had improved as a result (Figure 4). The collaboration between the members of ASTI ensured that the final

products looked professional and worked technically. However, the online tutorials were added to the main University induction website. We relied on students noting the URL to locate them after our sessions. We expect this to be solved in future as the University moves over to using Moodle for its digital learning environment. For technical reasons, the assessment activities were separated from the main tutorials and therefore, were ineffective. Although some course tutors required students to print off a certificate of completion, this was not widespread and diluted the impact of the tutorials.

Part 2 - Online tutorials

57% completed

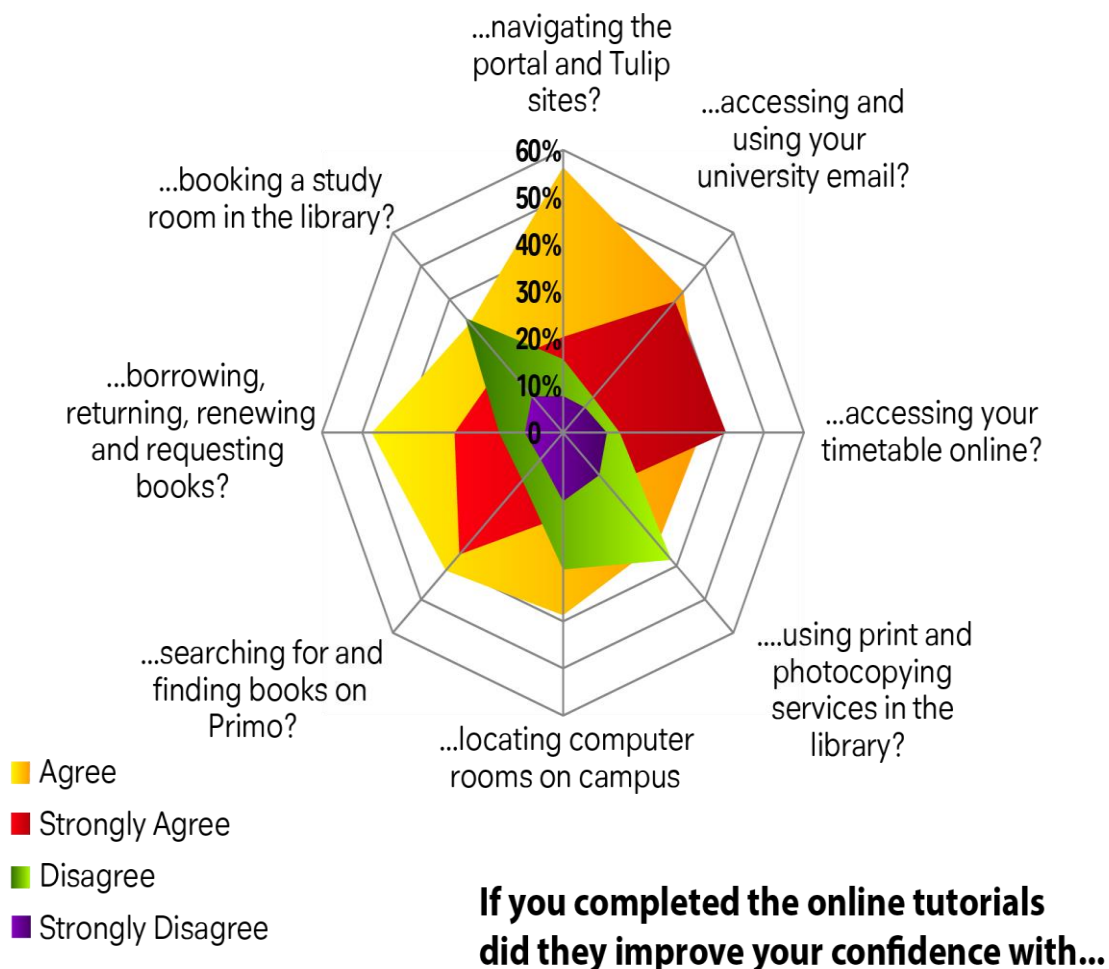
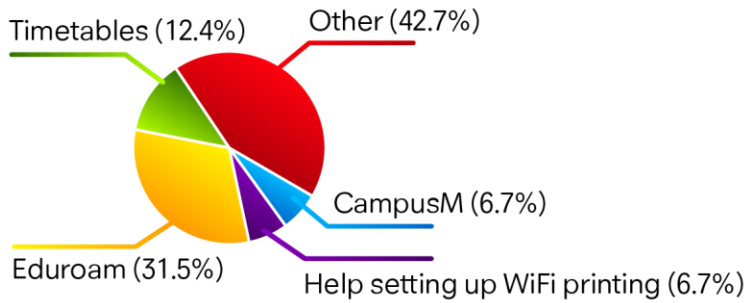


Figure 4: Feedback on online tutorials

The drop-in sessions generated a variety of enquiries (Figure 5), indicating that a more personal approach is welcomed by some students.

Part 3 - Open Access

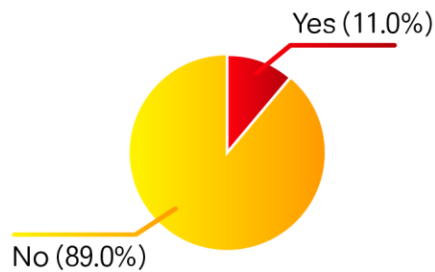
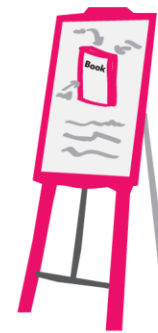


During induction week did you visit the open access area in Babbage or library reception for any of the following?

Figure 5: Feedback on drop-in sessions

The Library bite-size sessions might have been better scheduled for induction week. The take-up at the end of September was low (Figure 6); by this time most students had got the answers they needed.

Part 4 - Library Bite-Size sessions



As a follow up to the online tutorials, we offered Library bite-size support sessions (get that book/lost in the library). Did you attend either of these?

Figure 6: Feedback on the Bite-Size sessions

Conclusions

In conclusion, our "industrial model" had improved and the interactive aspects worked better. We aim to consider these key points for next year:

- Improve accessibility of tutorial
- Improve the assessment - ensure cooperation with personal tutors
- Mix online and face-to-face support with extra drop in possibilities for less confident students
- Manage expectations of students - the welcome talk is only the start. Other opportunities to learn the basics
- Improve balance between fun and information in the welcome talk- provide key information and use Pointless to reinforce

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Reimagining reflective practice in the dance technique class

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Abstract

This paper investigates the potential to challenge pedagogical approaches that may reinforce a teacher-student hierarchy in the dance technique class. With the aim of creating more opportunities for dance technique students to engage with critical reflective thinking and develop their sense of autonomy, the researcher will share the findings of two pedagogical interventions. These interventions were conducted with first year dance technique students at a UK higher education institution. In an attempt to stimulate critical reflective thinking on both the students' and teacher's behalf, a range of student-centered learning and teaching approaches were explored. The implications of such approaches will be examined, and the responsibility and expectations of dance students will be considered. Furthermore, consideration will be given to the way in which such approaches might test the dance technique teacher's own sense of responsibility, challenging them to test the boundaries of their authority. Constructivist educational perspectives and theories of critical reflective practice inform this research.

Key words

Dance technique, pedagogy, critical reflective practice, peer learning, student-centred learning, constructivism.

Background to the study

As a Lecturer in contemporary dance at a UK higher education institution, for some time now I have been reflecting on the way that I teach dance technique to undergraduate students. Traditionally, dance technique classes have, and continue to be a core aspect of a dancer's training and career. To offer a visual image, typically, one might imagine an expert teacher delivering a series of dance sequences to a class of students, usually in a mirrored studio and with music. Classes normally last around an hour and a half and aim to refine movement skills that are specific to dance: for example, shifting weight, jumping or turning, with the intention of transferring these skills into the domain of dance performance. Stevens (2006) describes the dance technique class as "studio practice primarily designed to enable learners to develop skills in execution and performance (rather than in choreography or dance composition)" (online).

The pedagogy of dance technique classes has undergone discussion in several educational and professional dance contexts (Smith, 1998, Fortin, 1988, Stevens, 2006, Dyer, 2009 & 2010, Stanton, 2011 amongst others). This ongoing discourse is also part of a wider discussion concerning the very notion of 'dance technique'. Ideas about the definition of 'dance technique' in the 21st century mean that it is now a rather loaded and ambiguous term. As dance has evolved as an art form, so have ideas about training the dancing body and consequently, in some educational contexts, the notion of 'dance technique' and the formality that it implies is thought to be a somewhat out-dated concept. A full exploration of these ideas is beyond the remit of this paper, although it is important to have a sense of the context from which this research emerges.

Nevertheless, dance technique still remains a core area of study across many Western dance degree programmes. Perhaps now more than ever, dance educators and academics seem increasingly interested in exploring methods for challenging the traditional teacher-student hierarchy that appears to have been perpetuated from one dance generation to the next. Teacher-researchers are interested in creating student-centred learning environments that allow reflective practice to emerge, enabling student dance artists to develop a sense of autonomy (Stevens, 2006: online). Stock (2004) proposes that dance teachers should attempt to create "a learning environment in the studio where students can consciously, actively and effectively apply anatomical knowledge, reflective/motivational skills and theoretical understandings to their dancing" (Pg. 5-6).

The aim of this paper therefore is to make a contribution to this discourse by sharing the findings of two pedagogical interventions that I conducted in a first year dance technique class at a UK higher education institution in Spring 2014. This research is informed by constructivist learning perspectives and theories of reflective practice, and draws on the work of Marlowe and Page (1998), Moon (2004) and Ryan (2015) amongst others. According to Ryan (2015) reflective practice can operate on a range of levels, but in its broadest sense reflective practice

includes two key elements; "(1) making sense of experience; and importantly, (2) reimagining future experience." (Pg. 15) To reach the reimagining stage, she suggests that the learner needs to go beyond personal reflection in order to engage with deeper, more critical levels of reflection that would be associated with academic or professional settings (2015). She states:

Thus, academic or professional reflection involves learners making sense of their experiences in a range of ways by: understanding the context of learning and the particular issues that may arise; understanding their own contribution to that context, including past experiences, values/philosophies and knowledge (Ryan, 2015: Pg. 16)

Ryan states that different forms of knowledge, including those listed above should be used to 're-imagine and ultimately improve future experience' (ibid). In an attempt to address the reimagining stage of Ryan's reflective model, I invited four members of my class to contribute to a group discussion once the unit had concluded. Moon (2004) suggests that reflection is both an individual and a social process. Thus, through engaging with this discussion, the students were able to begin sharing their experiences of participating in the pedagogical tasks and to reflect on what this revealed about themselves as learners. Although the level of critical reflection was quite minimal at this stage, the students still shared some interesting personal insights that could potentially stimulate deeper, more critical, or even transformative reflection in the future, possibly reimagining their own responsibility as learners of dance technique.

As I was interested in allowing the students to direct this discussion, I adopted a facilitatory role, beginning by simply asking them how they had found the tasks. I used a note-taking method to record their comments and responses to each other and interjected when appropriate. In an attempt to maintain a reflexive position in relation to the data collected, I have endeavoured to convey fairly the range of responses in the feedback from the students by sharing a variety of different perspectives. For ethical reasons, any student comments shared in this paper will be done so using pseudonyms to protect each individual's anonymity. I also share my findings as a teacher-researcher, drawing from my own observations and reflections.

How do I teach? What am I teaching?

Probably like most teachers in the early stages of their career, I have tended to teach dance technique in the way I was taught as a student, or what Lortie (1975) would refer to as the "apprenticeship of observation", meaning replicating the examples provided by our own teachers. Typically, my approach has involved devising a series of movement sequences that I perceive as appropriate for the level of study. Each sequence explores specific technical principles that draw from a range of classical, modern and post-modern movement concepts and again, this is reflective of my own training, drawing on my experiences as a dance student and performer. Together with quite detailed verbal instructions, I will demonstrate these

sequences to the group standing in front of me, with the assumption that learners will be able to make sense of the movement from my body, within their own bodies.



Figure 1. A typical example of me teaching a technique sequence to a group of first year dance students.

About a year ago I had an experience while teaching an extended sequence to a group of first years. This sequence required the students to explore a range of movement concepts, and concluded with a jump that involved flicking the legs behind the body, and pulling the arms backwards in a slapping action.



Figure 2. 'Flicking legs' jump demonstrated by Manchester Metropolitan University Dance student, Bryn Owen.

After demonstrating the jump several times, one student asked me if the arms in fact went forward, over the head in a circular motion, as opposed to back.



Figure 3. An example of the 'flicking legs' jump variation.

In stopping to think about the question, I wondered, had I ever demonstrated it in this way? What if I had? Would I appear incompetent if I changed it now? It was at this moment that I realised exactly how influential my demonstrations were, and just how much this student was relying on me to provide a definitive answer, a 'right way' to perform the movement. For some reason, I chose to resist the pressure from the student to do this and my response to her was, "you choose".

Surprising myself with my response, I recognised the impact of my open-ended answer. Since the technique class is a place where traditionally there are perceived 'rights' and 'wrongs', 'corrects' and 'in-corrects', the student looked back at me rather puzzled, as she arrived at the realisation that I trusted her to make her own choice.

Furthermore, I suggested that students might want to play with creating their own version of the jump. While many of them tried this, another student became very anxious about this idea, stating that he did not feel comfortable with this task, as he did not know any other "types of jumps". This student's resistance towards playing was interesting to me. Had this been a choreography session, I have no doubt that he would have approached the task without hesitation, but since the session fell under the label of 'technique', the idea of offering a creative contribution in this context seemed incongruous. Was he afraid of creating the 'wrong' jump? Had I, without realising, implied that only certain 'types of jumps' were acceptable? Whatever this student's anxieties were, it became clear that in this context, he wanted me to provide the material for him, and he was not comfortable with providing material for himself.

This situation exemplified many of the questions and concerns that I had been contemplating for some time. Being a Lecturer on a programme that promotes an ethos of 'the thinking dancer', I started to ask myself; what types of thinking am I expecting students to engage

with? If critical reflective thinking is what I am trying to encourage, then where and how in the technique class am I facilitating it? Although the frequently used rote method of teacher demonstration, student replication and repetition clearly engages the student in a complex motor learning process, does this model always allow space for reflection? As Stanton (2011) states:

The aesthetic goals for dance technique are not achieved through mindless repetition. Neither is this repetition intended to produce an *exact* replication of movements; since individual dancers will each be working with different 'equipment', the results of the movement are not intended to be the same. (Pg. 89)

With this in mind, it is useful to consider whether over-use of direct rote methods unintentionally establishes a hierarchy between the teacher and student that reinforces the notion that there is only one 'right' way.

When debating this issue, Stanton (ibid) proposes the idea of a dance technique "laboratory" where students are encouraged to explore their technique work through a process of trial and error. In this space, the student becomes responsible for leading their learning experience, while the teacher adopts a facilitatory role. Recognising the tension between this explorative approach and other more direct approaches, she states:

In entering this domain, I realise that a delicate balance is in operation: in pursuing learner autonomy, care needs to be taken not to dismiss the effectiveness of observing an expert. (Ibid: Pg.87)

It could be argued that observing an expert teacher is one of the most effective methods for learning dance, particularly the technical aspects. However, is it possible for this method to successfully co-exist alongside other more experimental approaches? Răman (2009) poses the central question here, "can technical skills be effectively acquired through the use of student-centred learning and teaching approaches?" (Pg.76)

In exploring this idea, it is important to consider student expectations of what they believe a dance technique class should entail. Those who have a substantial amount of previous dance experience are likely to have different expectations to those with less experience. Nevertheless, all students will arrive at University with their own ideas of how a technique class operates, and these ideas will be shaped by their prior experiences. Disrupting the traditional teacher-led culture of the technique class in favour of less authoritarian approaches could have a substantial impact on the way students perceive their own role, and the role of the teacher, and this impact may not always be positive. In pedagogical research conducted by Dyer (2010), students were given opportunities to influence the content and direction of the technique class.

They were encouraged to give feedback to their peers and to play a more active role in the feedback they received from the teacher in order to emphasise that they were not “merely ‘passive consumers’” (Dyer, 2010: Pg.123) of the teacher’s knowledge. Dyer’s data revealed that a number of her students deemed this “Freedom of learning and the responsibilities that came with this freedom” as “a burden and a sign the teacher was not working hard enough” (ibid).

In challenging students to reconsider their responsibility in the technique class, teachers of dance technique must also be willing to do the same. As I engage in my own reflective practice, I need to consider how testing the parameters of my authority impacts on my own sense of responsibility. For example, if I choose a more democratic approach, does this destabilise my sense of authority at all? What are the assumptions I am making about how the students expect me to behave as their teacher, and are my assumptions accurate? What are my expectations and perceptions of myself? Again, a full exploration of these questions goes beyond the remit of this paper, but they are ideas I am continually grappling with.

Facilitating opportunities for choice and creative input

Following the incident with the jump, I became curious about exploring this notion of choice further. Through my apprenticeship of observation, I had always assumed that the teacher must provide all the dance technique class material, but would there be any benefit for students if I could develop strategies that would enable them to create some of the material themselves?

To explore this idea further, in the Spring term of 2014, I conducted two pedagogical interventions with the same group of students referred to earlier. In this section of the paper, I will be discussing the outcomes of these two interventions in more detail.

On both occasions, the students were asked to engage with tasks that involved movement analysis and creative input; one task had quite specific instructions, while the other was more open-ended. At the end of the unit, I facilitated a group discussion with four students from the unit in order to gain an insight into their responses to the tasks.

This research was conducted in a unit that involves three integrated assessed elements. These are dance technique ability, performance skills, and written critical analysis skills. The dance technique element of the unit is worth 25% of the overall unit mark, and the learning outcome and assessment criteria for this element states the following:

Learning outcome:

1. Demonstrate knowledge of the principles of dance technique

Assessment Criteria:

1. Knowledge of fundamental principles
2. Application of knowledge in performance
3. Recognition of professional approach
4. Reflection on own development

I made the following two observations about this information:

1. Assessment criterion 4 requires students to be able to reflect on their own development.
2. Nowhere in the learning outcome or assessment criteria does it state that students must 'demonstrate knowledge of the principles of dance technique' in material taught exclusively by the teacher.

Taking this into consideration, if students were responsible for creating some of the technique material themselves, would it still be possible for them to fulfil the learning outcome and assessment criteria for this element of the unit? Could I develop frameworks within which they could create their own technique material? If so, would this method for exploring technical principles enable them to reflect on their own development in this part of the unit more effectively?

Constructivist educational theory was useful in terms of providing a framework around the research idea. Marlowe and Page (1998) suggest that constructivism is not about "the quantity of information a student can memorize and recite" but rather uncovering, discovering and investigating in the "context of a problem, critical question, issue or theme" (Pg.11).

Furthermore, Marlowe and Page (ibid) suggest that in a constructivist classroom, rarely does the teacher stand and deliver most of the content material; learners are seen as active agents of their learning, and not as "passive consumers" to reiterate Dyer's point (2010: Pg.123). If the teacher-led pedagogical model commonly associated with dance technique is considered in relation to constructivist ideologies, it could be argued that these two approaches are somewhat contradictory.

Intervention 1: Battement Tendu task

In this task, I taught the class a sequence that focused on a movement of the legs and feet called Battement Tendu. This movement originates from classical ballet but is regularly

practised in many modern and post-modern technique classes. A series of arm movements (or 'Port de Bras' in classical terms) were combined with the footwork. I taught all of this material using physical demonstration and verbal instructions.

After several rehearsals of the sequence, I asked the students to work with a partner to create the next thirty-two counts of movement. The movement had to be thematically linked to the first part of the sequence. In order to assist with this, I provided the following instructions:

- Continue to incorporate Battement Tendus
- There had to be the introduction of Pliés (another movement that originates from classical ballet involving bending and stretching at the knee joint)
- There had to be at least one weight shift where only one leg was supporting the entire weight of the body

I also requested that students created arm movements to accompany the footwork, but there were no specific instructions for this.

As I stood back and observed the group, I noticed that they approached this task with confidence. Working collaboratively with a partner not only seemed to reassure them, as they were able to share ideas, but they were also able to engage in critical conversations about the material and ask each other questions. Although collaborative learning is not exclusively a constructivist learning approach, according to Răman (2009) it is based on constructivist learning theories as it aims to facilitate a learner-centred environment in which students can appreciate their peers' perspectives on a problem (Pg.78).

Interestingly, the clear boundaries around the task and the clarity of the instructions seemed to give the students the confidence to explore. In many ways, limiting the focus for the task seemed to be liberating as the students did not appear to be overwhelmed by an array of different possibilities. Consequently, there were hardly any questions about what 'types' of movements were acceptable. Commenting on this in the group discussion, Ben, a student from a musical theatre background who had danced since his early teens stated that making material was easier, because they were given specific guidelines and not just told to "do anything".

Intervention 2: Extended sequence task

In this task, I focused on the same extended sequence that I referred to previously, involving the jump with the flicking action of the legs. Working with a partner, I asked the students to engage in some analysis of the phrase by drawing on the Laban Movement Analysis system (LMA), a method for analysing and documenting human movement developed by Rudolf von Laban. LMA draws on key movement concepts including weight, space, time and flow (Newlove

and Dalby: 2003). Historically, it has been implemented as a method for analysing and documenting dance across many different contexts.

Through their analysis, the students pointed out the following movement themes:

- Swinging actions in the arms and legs
- Movements have a weighted quality (the image of a pendulum was used)
- Falling on and off balance
- Exploring suspension and release



Figure 4 and 5: Moments from the extended sequence exemplified by Manchester Metropolitan University Dance students, Bryn Owen and Maryane Petters.

Following the analysis task, I asked students to work individually to create a short sequence that responded directly to one of the themes above. They had to link their sequence to the end of my sequence, creating a smooth transition between the two. These were my only instructions for the task, so any additional rules had to be created by the students. In comparison to the Battement Tendu task, this was much more open-ended and there were far more movement possibilities to choose from requiring the students to select and edit material accordingly. Marlowe and Page (1998) suggest that an analysis task like this encourages learners to “think critically...to discriminate between the relevant and the irrelevant...it’s about understanding and applying, not repeating back” (Pg.11).

The level of engagement with this task differed between students depending on many different factors. During the group discussion, Danielle, a student who had danced since her early teens and aspired to become a choreographer, stated how she enjoyed the creativity of the task as it allowed her to add her “own flavour” to the movement. The amount of instructions was enough for her, and any more would have made it too restrictive.

James, a student who had only been dancing since the age of sixteen, and like Ben, came from a musical theatre background, stated that he had struggled with this task, as he did not have a big repertoire of movement to draw from. He doubted the quality of his own material and preferred at this level to watch the teacher and learn this way. He wanted to learn new movement from the teacher, not just repeat things he already knew. He felt that the instructions for this task were too open and he would have preferred more direction, similar to the Battement Tendu task.

Ben agreed with James's point about repeating things he already knew, he stated that for him it was important to keep learning new movements and techniques in order to develop as a dancer. However, Mia, a student with a background in Brazilian dance pointed out that there is a level of repetition in all dance technique practice, and in fact, some refinement of technical movements through repetition can be a positive thing, as long as the dancer is not further ingraining inefficient movement habits.

Evaluating the student response

The diverse feedback from the students reflected their individual engagement with both tasks, and this was dependent on their ability and needs as learners. Through discussion, the students touched on many different areas that require further reflection. These include:

- The varying requests for more and less instructions
- The tension between refining technical skills whilst allowing space for creativity
- The notion of repetition in relation to dance technique practice

All of these areas have the potential to be explored in more depth, both by the students as reflective practitioners and by myself as a teacher-researcher.

In relation to assessment criterion 4 (reflection on own development), Ben said that having the opportunity to create his own technique sequences challenged him to not only question what he was doing, but to go even deeper and consider the how and why. He also stated that working creatively in a technique class context made him think more about the ideas behind the movement, rather than just copying the teacher and doing as he was told. When considered in relation to Ryan's (2015) two-stage model of reflection, this may demonstrate some evidence of critical reflection from Ben, the second and more advanced stage in the process. Not only was he able to reflect on his existing understanding of technical movement principles, but to possibly re-imagine his responsibility as a dance technique student, and question his reliance on the teacher. Similarly, Mia's comment about the use of repetition could suggest that she is beginning to think critically about her own approach to practising dance technique, reconsidering when repetition may or may not be useful.

Concluding thoughts: further reflections

One key observation that I made involved the students' use of focus and sense of awareness as they danced the various sequences. For example, in the moments when they were dancing my movement, I observed that most students would direct their focus towards me, looking for me to lead them. In contrast, when they danced their own movement, they would quickly have to shift their awareness back to their own bodies to remember their movement. Shifting between these two states of awareness was clumsy at first and students would often forget the movement, but with practise, the transition between the two became more seamless and I observed that they started to rely less on me, becoming increasingly more aware of their own bodies. With reference to the learning outcome and assessment criteria 1 and 2, students not only demonstrated knowledge of the fundamental principles of dance technique within my movement, but also within their own movement. Aceto (2012) suggests that "work often looks best when performed by the original owner of the material, the choreographer" (Pg.17), and thus it could be argued that embodied knowledge of this nature perhaps goes deeper than knowledge that is replicated.

Allowing the students to take control gave me the opportunity to actually stand back and see them moving. This revealed to me how little time I actually spend watching each individual. I have found that constantly demonstrating and supplying new movement to a group can be very arduous, whereas this approach allowed me more space and time to see what was happening around me. I talked less, stood back and observed the students working. I noticed how they communicated with each other and I saw them moving in different ways. There were also moments when I could see that some individuals were not fully engaged with the tasks and seemed to be questioning why this was being asked of them. In these moments, I noticed an anxiety in myself and I found it challenging not to slip into my default position and provide them with some movement. This asked something very different of me as a technique teacher, pushing me to relinquish my authority and allow the students find their own solutions.

Going forward, I will continue to research these ideas in the context of a PhD study, which I have recently embarked on. Using educational action research as a methodology, I will develop these initial pedagogical interventions further through several iterative action research cycles. Although I recognise the potentially destabilising effect, I am interested in the way that these alternative teaching and learning methods challenge the habits and expectations of both the students and the teacher. For the students, it asks them to reflect on their existing knowledge of technical principles and to question their reliance on the teacher thus potentially reimagining their responsibility as learners. As a teacher, it has led me to question my own habits, to test the boundaries of my authority and to contemplate when it might be useful to hold back and let the group take control. It has led me to reconsider my overall approach to teaching dance technique, reimagining and exploring alternative methods for delivering material. My concluding suggestion would be that in order to create the most beneficial learning environment for dance

technique, these explorative approaches should co-exist alongside more direct approaches, or as Dyer so clearly states:

Rather than taking an “either-or” viewpoint, a more productive attitude would be to envision how the diverse teaching metaphors might compliment each other or couple to form richer learning experiences. (2009: Pg.122)

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Is it fair to assess group work for students on undergraduate programmes of study? Narrative reflections on a collaborative project at Level 5.

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Abstract

Undergraduate students on the Foundation Degree in Learning and Teaching study a compulsory module exploring issues relating to 'Inclusion'. Assessment is through a group small-scale research project undertaken in their own workplaces and a personal diary with reflective statement. Concern arose relating to students not working equitably during the group project. This prompted a review of the module assessment strategy and its ability to support a grade which fairly represented the achievement of individuals. Tutor guidance was recognised as a major contributor to high student achievement but with concern whether this high input further exacerbated some student non-engagement – were students being led rather than empowered?. To explore equitability summative research was undertaken to discover if the consequences of assessment weightings had any positive effect on the inter-personal dynamics and motivation within the groups. The research established that the new assessment weightings and the level of Tutor input made a positive impact on fair task sharing, within the group(s), ownership of the project and understanding of the assessment process. However, their existing professional experience as Teaching Assistants in schools engaging in group working, proved to have a far more significant impact on the successful outcomes of their assessed group work project. The exploration of this factor led the researchers generating some key questions on the validity of assessed group working with students who do not have this level of professional experience.

Key Words: Assessed group work, Equitability, Student 'voice'

Introduction and Background

Students' experience of assessed group work presents issues in terms of the values and ethics of good assessment practice. This case study focuses upon challenging practice in how well the assessment and grading of group work fairly represents the achievement of individual students. It is important that those grading group work assignments have confidence that the assessment system accurately measures individual student achievement. It is essential that those responsible for deciding assessment strategies evaluate the basis upon which they make their judgements regarding the equity of the process and the perceptions they have of the student experience. A focus of the research is the understanding that educators operate through making assumptions although they may not always be aware of having made those assumptions. The intention is that the research follows principles outlined by Elliott (2007) involving tutors in identifying and clarifying ethical challenges in their own teaching and then evaluating solutions based on values. This model of 'action research' supports the examination of evidence which will serve to acknowledge and challenge our assumptions.

The research identifies two main areas for consideration: (i) The structure of the assessment strategy in empowering students to demonstrate their individual achievement via assessed group work. (ii) The role of the tutor in facilitating the student experience.

The research examines how groups operate in an environment which enables them to present assignments which fairly demonstrate their capabilities and contribution to a group effort. Findings from this small-scale study contribute towards an understanding of the sensitivity of issues which impact upon the assessment of group work. Although the scale of the study dictates that conclusions are tentative, some clear evidence was obtained; the research revealed the diversity of the 'group-working experience' for students and the need for tutors to challenge their perception of students' understanding of the assessment process. Although cautious, it draws conclusions related to the symbiotic nature of the relationship between tutors and students and the need to understand the impact of this on the assessment process.

Key literature sources identified aspects of practice which impacted upon an understanding of the issues regarding fairness, justice and reliability of group work (Maguire and Edmondson 2001, Barnfield 2003, Knight 2004 and Skinner et al 2004). Awareness of the motivational factors implicit in group work assessment including the effect of rewarding the group product or the individual contribution were considered in relation to Chapman (2002) and with regard to the inter-relationships in groups, Arango (2007).

Context of the research

As a part of Year 2 (Level 5) of the Foundation Degree in Learning & Teaching (FDLT) at the University of Northampton all students engage in a module dedicated to exploring key issues relating to inclusion in their own schools and educational settings (all the students being employed as Teaching Assistants in local/regional schools). The module assessment piece is in the form of a group project together with a record of the individual's involvement in the project via a project diary and reflective statement. The module builds on the knowledge, skills and understanding acquired through the students' previous study in Year 1 (Level 4) and their own professional practice in their workplaces.

The nature of the group research project

Study on this module is designed to provide each student with further insights into the learning, social and support needs of pupils with special educational needs and/or disabilities. In addition it is also used as initial practice in generating research aims/questions and in practising the skills of being an inside-researcher conducting action research in their own settings. A benefit of engaging in this school-based, group research is the generation of key data, advice and recommendations for personal professional and school improvement/development. Whilst the emphasis is placed upon the students developing their understanding of issues relating to inclusion, there is also emphasis on learning to work collaboratively and developing skills as reflective practitioners.

The group project in action – structure & progress

In the first taught session ideas and issues within the wide area of 'inclusion' in the school community are raised and discussed. Information is presented on the strengths and potential difficulties of collaborative working and the method of assessment. Over the next taught sessions the students consider the range of topics and form groups of three to four. These are not 'friendship' groups as they are based on an agreed area of 'interest' relating to inclusion.

Tutor input and guidance is considerable in terms of advising, directing and teaching research skills; particularly the structure of the collaborative research project, how to manage research methods and the management of being an inside researcher in their own work-place. Key discussion concentrates on how communication within each group can be self-managed and how to take collegiate responsibility for ensuring the success of their project.

For all the following time-tabled sessions the module tutor is available for consultation (the tutor is also available 'on-line'); the groups are expected to meet out of session time as frequently as they perceive necessary and to keep communication channels open between

them. All groups are self-sufficient at this point and continue in this way until project submission.

Assessment Strategy

The project is dependent upon a successful group approach; however, within this the students can demonstrate their individual contribution through two elements:

(1)The diary is designed to be used to keep a record of all the work a student undertakes for the group project e.g. contribution in group meetings, collecting information in school, reading relevant materials, trialling materials in school, discussions with other school staff, meetings with the tutor & school-based mentor, preparing the documented project. In order to maintain the integrity of their work each group member counter-signs the diaries of the other members in order to agree that the individual input of each member is an accurate account.

(2)The Personal Reflective Statement is an analytical discussion of the mode of working and the research outcomes. Students are advised to structure this in three sections: (i) What they have gained in terms of their own professional knowledge through engagement with the research and how this will impact on their own work in schools (ii) what their schools/settings might gain from the research and (iii) how they found the whole process of collaborative group working – did their view change? How difficult or easy was it? If they used this method again would they change anything? The Reflective Statement is not read by the other members of the group

Each student is awarded two grades; one for the project (all members of the group receive this grade) and a personal grade for the individual (Diary/Statement) element. These two grades are combined and, according to the assessment weightings, an overall personal mark is awarded for this module (see Table 1 below).

Assessment Item	Weighting
1 x group research project	60%
1 x Diary 1 x 1500 word Individual. Reflective Statement	40%

Table 1 Assessment Weightings

Although previous student module evaluations (2006/7) had not indicated opposition to the nature of the joint project mark or the integrity of the process, a minority of students stated there were colleagues who took a 'back seat' during the group research period and others who, through forceful personalities, 'took over' the group. As a result some students felt that their work would receive an unfair grading. This is a well documented problem identified by others

including Ransom (1997), Parsons (2002), Hand (2001), Cheng and Warren (2000) and Woodhead (2008) who states that, " *Group coursework should be banned*. In addition, a comparative review of module grade outcomes indicated that the module assessment strategy did not sufficiently discriminate between students as a significant proportion achieved very high grades. Thus the decision was taken to review the assessment weightings with a view to increase the individual element of the assessment in order to provide a more equitable process. Whilst the principal planned action was to adjust the assessment item weightings, it was also identified that further knowledge was required in order to ascertain the extent of the issues identified by students and whether there were other factors to be addressed in relation to securing a process of assessment which ensured equity within the group work element.

Research aim and methodology

The 2006-07 module review caused the researchers to reflect upon whether the tutor's support of students was a factor in the high grades awarded. This led to the further question of whether a high level of tutor support could cause lack of engagement in some students by allowing them to be led rather than, as was intended, empowering them to develop their own projects?

Tutor input when setting up the projects is very high with continuing extensive tutor support available through time-tabled sessions and by e-mail contact. This led to the questions:

- How much of this group work project is influenced by the tutor – in short, who really has 'ownership' of the project?
- Do students consider they have extensive guidance? How far does this contribute to student groups maintaining their cohesion and direction?
- Do the assessment grading weightings discriminate against some students as the majority of their overall marks remain for the group project?
- Would it be better to further reduce the weighting for the group project to 50% (and increase the individual element to 50%) or keep the project as the major assessment piece due to the particular professional background of the students who are perceived to be working in collaborative situations in their workplaces as a matter of course?

The focus of the research is therefore to discover the key elements which contribute to the effective collegiate management of the group, including an exploration of the support mechanisms employed by the group, the communications systems adopted, the factors affecting motivation in the group and the extent to which these elements influence the students' sense of a successful and equitable experience. Central to this is the consideration of

the tutor role and whether there is a conflict between the tutor view and the student view of the role and its influence in determining the group's grade.

Methodology

This qualitative research was designed to generate critical narrative reflections to under-pin strategies for improving the practice of group work assessment.

The research was in two stages:

Stage one focussed upon the experience of the 2006/07 student cohort who were able to reflect upon their impression of the process having had time to associate their learning to their final year studies (Year 3, Level 6). This data was already available through the University's own formal student evaluation system

Stage two investigated the more immediate experience of the 2007/08 cohort and their on-going perceptions of the process.

The research methodology was intended to provide data which, after analysis, would inform tutors' understanding of:

- The students' perception of fairness with regard to the assessment weightings for the individual and group elements of assessment
- Ethical dilemmas surrounding the tutor's role in guiding and facilitating the group work in respect of this having potential to affect the group grade

The initial research aims therefore sought to explore:

- Whether students had an awareness of the detail of the assessment weightings in the assessment strategy.
- If so, what was their level of understanding of this and to what extent did they perceive it to be fair and a reliable reflection of their achievement as a group and as an individual.
- The effect of the level and nature of tutor facilitation on group dynamics in intra-group communication, task-sharing, empowerment and ownership.

Throughout the process of developing the research methodology it has been important to reflect upon the limitations of any findings within the context of the relatively small numbers sampled from two distinct cohorts from two different academic years, 2006/7 and 2007/8.

Key to this research is that interpretations of events within the module made by the module tutor and course leader may be based on different understandings from those of the students. This is a pertinent value within the research in that the tutor and course leader should not make assumptions of having knowledge about the understanding and perspectives of the students. This is fundamental to the approach in investigating the values inherent within the construction, delivery and assessment of the module.

The approach was to use mixed methods in order to support triangulation of the evidence and the differing perspectives in order to add validity to findings (Coleman and Briggs, 2002). The researchers used:

- The analysis of reflective statements from the 2006-07 cohort (assignment 2)
- The analysis of the 2007/08 students' reflective statements (assignment 2)
- A questionnaire on collaborative working and the tutor role to 2007/08 students
- Interviews with a focus group of 2007/08 students

Group interviews with the 2007/08 cohort involved representatives from each of the project/research groups from that academic year. The interviews were semi-structured, providing opportunities for reflection and encouraging free flowing debate. Interviews with the group occurred at the outset and on completion of their group project.

Discussion of findings

Phase One

(i) Narratives from the 2006/07 cohort obtained from the assignment 2 reflective statement (n = 20 students):

The analysis provided findings that indicated:

A mainly positive experience of collaborative working existed. They demonstrated an enthusiasm for group working.

An awareness amongst the students of the need to be supportive of those experiencing difficult personal circumstances during the project (n = 4).

A minority of students who commented there were some who took a 'back seat' during the group research period and some students who, through forceful personalities, 'took over' the control and direction of the group (n = 2).

Groups became focussed and worked together in order to meet deadlines: A varied means of communication was used by students to ensure the success of the group (e.g. e-mail, meetings in local library, meetings at each others' homes and in other locations.). Where a group identified that at times not everyone contributed fairly, the group dealt with this satisfactorily and did not apportion blame. Groups shared the workload and were committed to doing their individual best. One group found gaining initial focus difficult but resolved this via additional discussion within the group and seeking some comment from the tutor

These responses suggest the students have a professional maturity in their approach to group work and a degree of confidence and experience which enables them to manage the group dynamics and overcome difficulties in the interest of achieving a successful group project. However, it also indicates that the students are involved in problem-solving throughout the process and some found the issue of individual personalities and unequal contributions difficult to manage.

Specific comments with direct relevance to the research questions:

(a) Significance and fairness of the assessment weighting

Students tended to demonstrate their acceptance of the requirements of the module and the approach to assessment. The comments indicated that students tended to measure the weighting via the amount of work they put in and that they are aware the two assignments enable them to demonstrate different learning outcomes. Some students acknowledged that the ability to work in a group is part of the module learning outcomes (as a 'Key Skill'). However, most had not considered the assessment weighting and approached the task (group project and diary/statement) by being unquestioning and by putting in their best effort for both items. Initially most students did not attach significance to the weighting of the assignments, once prompted to reflect they tended to assume fairness within the assessment strategy. This raised issues for the FDLT Course Team in maintaining an ethically sound stance in ensuring students fully understand the significance of the assessment weightings.

(b) Sense of achieving a fair grade for the group project

Comments from students tended to demonstrate their commitment to producing a high quality group project. There was a strong sense that the students would endeavour to ensure fairness by managing the equitable sharing of tasks within their own groups. It was also evident that the students considered they were drawing upon their professional work-based practice in their understanding of the need to be aware of the importance of successful teamwork. This is demonstrated in the following comments:

"May not be fair if group didn't gel and not all effort was equal, but groups needed to co-operate and compliment each other's strengths."

"We all wanted a good grade and so we supported each other for the sake of the project."

"It worked because our group had strong team ethics. 'Fairness came from the project being about teamwork and that's part of our professional practice."

"We signed each others' diaries so we knew the marking of the individual effort would be fair."

(Individual reflective statements June 2007)

Limitations to this however, were noted where the students identified:

"In a very small group it wasn't possible to share the workload evenly if one student was particularly weak".

"Students new to the cohort felt difficulty in fitting into a group"

(Individual reflective statements June 2007)

This may be an indicator of where tutor influence in establishing groups is vital at the outset of the project and can be a major factor in supporting students' avoidance of potential issues in relation to fairness.

(c) Influence of the tutor

There was no evidence that students felt the tutor was dominating their decision-making or hindering their exploration of ideas. The students valued the tutor as a point of contact; someone who was able to oversee the progress of the project and provide support if needed.

(d) Aspects of the project which supported or inhibited a sense of the assessment being a valuable experience

The students did not make any comment which indicated the experience was made less valuable as a consequence of the assessment including a group grading. In all cases their focus was entirely upon the positive aspects of completing the project.

When prompted, however, students were able to make suggestions which might indicate they could identify aspects which were inhibiting, although they did not do this overtly. One group used an evaluation sheet of the groupwork process for individuals to comment on the contributions of others, although the students also identified this hinged on subjective

perceptions of what seems fair to one may be different from what seems fair to another. Most individual students appeared to acknowledge both parts of the assessment strategy equally, although a small number (n=3) went on to state that this would not reflect time spent on the project.

Phase Two

(ii) Initial interview responses 2007/08 focus group (n = 6 students)

This semi-structured focus group interview took place at the end of the group 'forming' stage of the module in mid-November 2007 (at the end of session 4). It was designed to discover initial impressions of how their engagement with their research will increase their professional knowledge, their working preferences, the level of support from the tutor so far and any emerging difficulties. This was a very limited exercise in that only a single group took part, thus the findings can only be tentative and not indicative of the whole cohort of students.

The analysis provided findings that indicated:

All group members felt that their engagement with their chosen area of research would have a significant impact on their own professional role in their schools/settings

Some students were unsure about group working (n = 3). They work in groups in their professional role in schools but had worries about engaging in research with 'research partners'. This was solely based on their own fear of 'exposure' as being, "*not as clever as the others in my group*" (student 'A') or of having to face potential conflict, "*It gives me the chance to share ideas but I often prefer to work on my own particularly when ideas conflict and it's hard to reach agreement.*" (Student 'C'). Other students (n = 3) welcomed the opportunity to work in a group, "*I have enjoyed it so far. It is nice to be able to bounce ideas off the others, clarify them and generally debate. It also makes me get on with the work as I feel that I may let the others down if I don't.*" (Student 'B') The need to support the others in the group and to play a full part in the project was a particularly strong motivating factor for all students.

All of the students reported that they had just the right amount of support from the tutor; no student stated that the tutor gave too much support or 'over-directed' the group.

Each student had expressed areas of difficulty relating to the time management of the research project as it had to be undertaken at the same time as they were studying on other FDLT modules and completing other tasks/assignments (in addition to performing their professional employment role back in their schools).

(iii) 'Exit' questionnaire responses 2007/08 cohort (n = 32 students)

This was a brief questionnaire completed by all cohort members, in class, on the day that the final group projects were submitted for assessment (April 2008). It was designed to discover the students' beliefs into who was responsible overall for managing the group, on their experience of receiving tutor support and their opinion on the fairness of the 60/40 assessment weighting.

The analysis provided findings that indicated that the majority of students (n= 27) believed the group *as a whole* was totally responsible for managing the group in terms of establishing tasks, creating/maintaining the communication framework, directing and executing the school-based research, utilising key texts/sources and writing up/compiling the project in a 'corporate' style. A few students (n = 4) stated that it was a joint responsibility shared between the group and the tutor – with the tutor taking responsibility for dealing with any disagreements/difficulties arising within the group dynamics or with any difficulties generated through the school-based research.

The majority of the students (n = 30) believed the role of the tutor in the module was to help them interpret the assignment brief and direct them during the initial 'set up' phase of choosing the area of research and their groups; after this, to support them with issues/queries relating to study/research skills, their reading and with any specific school-based issues arising out of their insider research. Two students were unsure of the tutor's role.

The majority of students (n= 22) stated that they used the available tutor support only moderately after the initial set up phase. A significant number (n = 8) completed the project with only using tutor support sparingly while a small number (n= 2) did not seek any tutor support.

In accessing tutor support the most frequently used method was through face-to-face communication in the given 'taught' sessions (n = 28). Four students did not take up this option and did not attend the taught sessions after the initial set up phase of the project. A small number of students accessed the tutor through e-mail (n = 8). No students used the telephone or accessed tutorial support outside of the taught session times. The tutor was perceived to be most influential during the planning stage of the project with their influence being less in establishing group roles and concluding and collating the research.

The majority of the students (n=29) said that the assessment weighting was 'appropriate'. Three students disagreed:

"It seems slightly wrong that one person's degree marks rely on the input of others. Although it was an interesting way to work, there are problems."

"This may be difficult if some people do not have the same impact or an input to the final piece of work. The diaries do not necessarily reflect this."

"This is hard to comment on as the 60% means that all group members benefit from the final grade on the project. In our case one member contributed very little, although this was because she had dyslexia and found the work hard; we helped her and she did do some useful stuff for the project but not on the same level as the rest of us – particularly all the research and the analysis. 40% for the individual element is fair enough as this gives individuals the opportunity to prove their worth. Perhaps a 50/50 split is the best."

(Exit questionnaire responses April 2008)

(v) Analysis of 2007-08 students' reflective statements (n = 10 diaries as a representative sample across the cohort)

There was a clear similarity between the statements from the 2006/7 group and the 2007/8 group. Without exception all of the 2007/8 students stated how their engagement with the school-based research combined with extensive reading had made an effective impact on their professional knowledge and practice and how their individual schools/educational settings are (or will be) benefiting from the outcomes of their group research projects. Comments relating to the students' experience of group working were illuminating, particularly those who freely expressed their 'feelings' and their growing skills in being able to work with others in a pressurised environment:

"I found it hard to 'let go' of the whole project, having to remember that I was not working alone and that I was part of a team. I struggled to adjust to the 'limited autonomy' in a group project and had to ensure that I listened to and valued everybody's contribution. I felt that I tended to naturally take the lead and had to be aware of this and not be 'controlling'"

Student 'J'

"The project overall was nerve wracking having to work with other students instead of by myself, I don't mind working in a team but knowing that my input effected every one's grade put pressure on me and I realise that this affected how the rest of the group distributed the workload. The others helped me a lot with the use of correct language, writing skills and also tuning

my concentration, but I do feel that this took away my own personal skills as an 'academic student' at times. My colleagues should have discussed their problems over working with me as this affected the consistency of the group work, the others contacted each other separately at times and disregarded my need for the same information."

Student 'L'

"When working in group situations I am usually the most assertive or dominant character, often the one elected to lead or represent the others if required; in this group that was not the case and I found that to work successfully I had to compromise and sometimes take a 'back seat'. I found it quite frustrating at the beginning if I didn't get my own way; I went home a few times feeling quietly anxious. Over the course of the project I feel that I have become more tolerant and tactful towards others. Engaging in the group project has been a valuable experience although not one I've always enjoyed!"

Student 'A'

"My experience of group work was positive, informative and enriching. I felt supported and encouraged by my colleagues as we shared ideas and respected each other. In any group work all participants need to have the confidence and skills to be willing and able to participate. One member of the group made no contribution to the literature side of the project – although this was difficult I decided to encourage her in the areas she felt able to contribute with. This experience has made me accept that group work can present you with unexpected challenges but for the benefit of the project it was advantageous to proceed positively with the task in hand and to discuss difficulties openly."

Student 'W'

The 'professional maturity' identified in the reflective statements from the 2006/7 cohort was evident here along with the supportive nature of the groups and individual members, although the experience of one student (Student L) was significant in that she felt disempowered by her own group who by trying help her with academic writing skills left her feeling devalued in terms of her academic input which was then compounded by leaving her out of their communication 'loop'; this is in marked contrast to the overall positive experience of other students who commented on their own evolving tolerance, discussion and collaborative skills. In all the diaries examined, no student commented on how they thought their 'supportive gestures/acts' might have impacted on the self-esteem of the colleague they were trying to help – this is significant in relation to some of the statements from students at the beginning of the

project where some were concerned as to their ability to engage in research and in collaborative working and they didn't want to 'let the group down'.

(vi) Exit interview with 2007-08 focus group (n = 6 students)

This was in the form of a semi-structured group interview and had its focus on presenting how the group maintained 'fairness' and the working relationship between the group and the tutor throughout the life of the project. These were the same respondents who provided data for the initial focus group interview responses in November 2007. This 'exit interview' took place after completion of the exit questionnaire.

The analysis provided findings which indicated that 'fairness' and equitability was established through the group members working strictly according to the guidelines and protocols set by the tutor in the initial planning stages of the project. Set meeting times were arranged in both the available taught sessions (where the tutor was available) and in a series of additional meetings outside of the taught sessions at locations/times agreed by all group members. Minutes were kept and an 'action point' list was made for the next meeting. In addition to these formal meeting times the group established a 'wiki' discussion board so that information could be shared electronically. An e-mail and telephone communication network was created.

That within the group, discussion was initially focused on each individual member's strengths in terms of existing knowledge and skills in small scale/school-based research and the area of study. Tasks/activities were agreed and distributed according to level of expertise and emerging interest.

All group members stated that they understood the nature of the assessment weightings and the need to work collectively in order to achieve a high grade by producing a high quality research project in a 'corporate style'. This was a major motivating factor although, after engaging in the research, the majority of the group viewed the assignments as being totally separate pieces of work with the weightings becoming irrelevant; as a result they put in a full effort in each assignment piece (group project and diary/statement).

Group members frequently read through each other's contributions and suggested improvements, links, directions to supportive literature/sources and encouragement. This was a key motivating factor within the group and maintained the collegiate/corporate ethos.

There developed, over time, a strong team and work ethic where group members were not afraid to admit mistakes/show weakness or share good work. This contributed to a learning community where any disagreement over approaches or project content/presentation was amicably and swiftly resolved.

All group members understood that their individual contribution to the project would be registered through the research diary which would then be read and agreed by all the other group members prior to submission for assessment. This further motivated individual group members ('not letting the group down') and provided a transparent method of showing fair contribution.

The tutor was helpful throughout the project ; particularly in the early phase where key information on the nature and rationale behind the project, discussion on areas of research focus/interest, direction on how to manage the school-based research, protocols on school-based work and warnings about potential 'pitfalls'/difficulties in group working and school-based research was presented.

The tutor directed the group if they asked specific questions and helped them to limit the scope of the research but generally let the group develop their own area of interest, questions and direction of the research. The tutor did suggest 'ways forward' when asked.

"We didn't have too much help – it was a stepping-stone or scaffolding approach where he brought the focus back for us if we'd gone too wide or off the mark."

Student 'C'

This was the first time the students had been given this level of autonomy in an assessment (a non-prescriptive assignment); there was a level of fear "*...of the unknown*" however the students felt that they were not 'led' by the tutor:

"There was no loss of ownership, we were just helped to know how to achieve a particular level."

Student 'B'

"The tutor encouraged us to achieve more as he had high expectations but we were not spoon-fed."

Student 'A'

"I can't think of an incident when we were provided with resources – we were given direction/help but it was our responsibility to find resources."

Student 'D'

"We would clarify things with him and then go away and work on it"

Student 'C'

(Exit interview April 2008)

Conclusion and emerging questions on validity

Curtis & Curtis (1995) state that it is accepted practice in many work places and organisations to place people in teams and to give people something to relate to and to work for, other than their own task. Fiedler and Garcia (1987) define a 'group' as a set of individuals who are interdependent and who interact to achieve a particular purpose. They share a common fate so that an event that affects one also affects other group members (i.e. they may jointly share rewards or suffer punishment). In short, these two views apply to the students who undertake the group research project.

From the analysis of the gathered data it can be said that, overall, most students had a positive experience of group working with the success of the project depended on the *group* and that *the group* is entirely responsible for the grade received. However, there is still a small number of students who have concerns relating to the concept of having a shared 'group mark' when there is a weaker student in their group but in this case they still agree that the group shares the responsibility to manage this situation (with tutor support/guidance if required).

There is a strong awareness amongst the students of being supportive to other group members – however, the experience of one student who felt disempowered by her own group was significant in that the perceived 'supportive' actions of her group mates had a negative affect upon her self-esteem and her identity as an 'academic researcher'.

Generally the students felt a need to '*not let their groups down*' – this was a strong motivating factor throughout

Time management and maintaining close communication remained a difficulty for a number of groups (distance and availability due to other work pressures being the most cited). However, those groups who managed a tight process of structured meetings with a fair distribution of tasks and a varied means of communication (e-mail, telephone, out of session meetings) created a corporate/collegiate work culture which proved to be exceptionally supportive and effective in terms of managing the school-based research and project collation/completion. This was particularly evidenced by the 'focus group' (2007/8 cohort) who established an inclusive working environment and positive group self-esteem by following a tightly structured model of operation underpinned by a strong communications system (including the setting up a 'Wiki' for group communications).

The students' engagement with their research focus/area of study and their wider reading has made a positive impact on their own professional knowledge and practice and in their development as 'teacher-researchers'. They recognise how their group research work will have

(or, in a number of cases, is already having) a positive impact on their schools' provision for pupils with special educational needs and disabilities.

In terms of the influence of the tutor there was no reportage of the tutor dominating the students' decision making process or overly influencing their exploration of ideas with the tutor being seen as a facilitator and a guide, particularly in terms of subject knowledge and in the management of school-based research. The tutor did emphasise the assessment strategy and weightings but a proportion of the students did not fully understand the significance of the weightings and relationship between the group and individual work gradings.

These key points generate some important areas for discussion by the course team responsible for the Foundation Degree in Learning & Teaching:

As the current assessment strategy (60/40 weightings) appears not to create difficulties with the majority of the students who seem to think this is appropriate for the nature and level of the work required, should it be maintained for the next academic year or should a further increase in weighting to 50% for the individual assessment pieces further establish an equitable and fair assessment system? Would it actually make a difference? It appears not to. Further work on raising student awareness of the weightings system and how this influences their grades is required, although this is identified as a whole programme of study issue and not a project issue alone.

In terms of the ethics of having a potentially tutor-dominated group research module, negative aspects have not emerged. The influence of the tutor is a significant one in setting up the research projects and providing on-going support but there has been no indication, from the students, of the tutor being overly prescriptive. The students felt motivated, challenged and supported not disempowered. This is a key finding as it contrasts with the initial course team view. It challenges those responsible for assessment strategies to ensure they do not make assumptions about what is in the students' best interest; it significantly strengthens the need for tutors to consider the issues and actively seek student opinion. Perhaps the most important factor to highlight in this case is the actual nature of the students themselves; they are mature students who are educational practitioners with at least three year's experience working in schools/educational settings. As previously stated, they are used to working collaboratively and cooperatively in order to solve problems, create products and share ideas as a required part of their professional employment. It is this vital background which creates the solid foundation for this school-based project; group work is not 'new' to them and they naturally undertake it. Their assessed group research project is within their experience, although due to its particular demands many students do discover some pertinent personal strengths and weaknesses in their ability to work in collaboration with others. The main foundation for success in this project is the unique professional expertise and experience of the students, without this factor and with a more traditional year 2 undergraduate cohort of students, the project would have serious

ethical flaws in terms of equity and content as there is no given time to explore the experience of , or to practice, collaborative working techniques prior to embarking on the small-scale school-based research thus existing group work experience and expertise is a pre-requisite.

If this is the case then there is a major issue emerging over the validity and fairness of using assessed group work with a shared grade for students who do not have this level of experience. Is it actually possible to make such a process fair for those students who don't have extensive previous experience in successful (un-assessed) group working? Should we only engage in assessed group work in the final year of a student's course/programme of study when they have experienced this way of working earlier? If so, is this fair particularly as the last year of an undergraduate student's course carries so much emphasis in terms of their final grading and classification? Having a percentage of this final grading dependent on the work of others would prove to be a very unpopular assessment strategy. Is the answer to only include the valuable process of group working in a student's course if it doesn't impact upon any assessment item, or only use it in the first year of a two or three year course so that the assessed group work doesn't have such a significant impact on the student's overall grade/classification? In that case, is there really any point in using this approach at all? Perhaps there might be substance after all to the view of Woodhead (2008) and should group coursework be banned?

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Biology students' perceptions of learning from video exemplars of practical techniques: some lessons for teaching strategies

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Abstract

Video demonstrations are considered a useful way of preparing students for laboratory practicals or fieldwork, but the benefits may be dependent on the type of task and the level of prior understanding. In this study we initially replicate the findings of others in that 62% of student questionnaire respondents found video exemplars of technically complex laboratory practical tasks helpful. This, however, contrasts with the views from student focus groups undertaking ecological sampling techniques utilising relatively simple equipment. In the focus groups it seemed that prior practical experience had a greater impact on learning than the video exemplars. Furthermore, students' practical concerns were overshadowed by worries of experimental design and data analysis. Our findings suggest video exemplars to be a more effective teaching tool for technically complex procedures. Students' concerns regarding data handling merit further investigation as they may lead them to choose less challenging third year projects.

Keywords: video; laboratory; fieldwork; practical work; exemplars

Introduction

Undergraduate practical sessions have a central role in science education (Hofstein and Mamlok-Naaman, 2007) and within the biological sciences organisations concerned with academic standards see practical work as a vital component of degree courses (e.g. Great Britain, Quality Assurance Agency for Higher Education, 2007; Great Britain, Society of Biology, 2013). Yet, despite the emphasis attributed to science practice, universities seem not to be effective at producing graduates with the skills required by employers (Association of the British Pharmaceutical Industry, 2008; Great Britain, House of Lords Select Committee on Science and Technology, 2012).

Considering university practical sessions from the students' perspective may be helpful in unravelling possible reasons for the mismatch between university aspirations and employers' experiences. For students, investigative practical work does promote a greater sense of professional scientific identity (MacKenzie and Ruxton, 2007) and Collis et al. (2008) found that first year students perceived laboratory practical sessions to serve a variety of functions such as learning new skills, illustrating lecture material and facilitating social interaction. Hence students value practical work for worthy reasons, but it may be that students perceive practical attributes in subtly different ways to their tutors. Firstly, while students relish learning the skills to use more complex equipment, it is noticeable that their emphasis seems to be on equipment use *per se* rather than on understanding the purpose for using such equipment (Collis et al., 2008). Here, the observation of Kirschner and Huisman (1998) that undergraduate students often think of practical exercises as isolated from other course components may be pertinent; a view that seems at odds with their previously stated illustrative role for practical work. Finally, first year biological sciences undergraduates perceive their university practical sessions as less personal than their prior college experiences (Collis et al., 2008). Perhaps the social function of university practical sessions is reduced by factors such as larger class sizes and multiple staff members; factors that are often outside the control of individual lecturers and which may contribute to students considering them as separate, isolated activities.

The availability of video exemplars of practical techniques may serve to enhance students' practical experience since they may provide additional exposure to procedures outside the laboratory session when the environment is less pressurised by the immediate need to undertake practical procedures. Such videos have been previously used in physiology practical sessions (Croker et al., 2010) where they were made available both prior to the session and within the session at small group workstations designed to facilitate student interaction. They were shown to lead to increased student engagement in their scientific practice as illustrated by the quotation below.

“In reality, our studies suggest that students are more likely to attend practical sessions after viewing videos, and felt better prepared, more enthused, and knew what to expect.” (Croker et al., 2010, p.10)

Furthermore, demonstrators in these practical sessions reported that they spent a greater proportion of their time answering higher level student queries rather than simply troubleshooting technical equipment issues (Croker et al., 2010). More time was also available at the end of the sessions for whole class discussions of pooled class data.

Video exemplars of practical techniques therefore seem to contribute to learning and the relevance of specific aspects of visualisations of practice to this process has been the subject of previous empirical investigations based typically on standardised tasks which were unfamiliar to the participants. An early study by Ferguson and Hegarty (1995) considered learning the mechanics of pulley systems. Line diagrams were compared with hands-on dynamic interaction with real machines. The media did not affect students' ability to choose efficient pulley systems, but the dynamic interaction with real machines did enhance their ability to apply their knowledge to real world situations presented in a post-instruction test. In this study, and also in the study of Croker et al. (2010), in addition to seeing movement students had the opportunity to repeat particular components at their own volition. Hence (i) the impact of movement (ii) the ability to control that movement and (iii) the degree of realism may have all contributed to the observed differences. Subsequent studies have endeavoured to separate these three aspects of visualisations.

Using computer visualisations of a pulley system, Boucheix and Schneider (2009) studied effects on learning of, firstly, movement by comparing an animation to static diagrams and, secondly, user control by comparing non-controllable and controllable animations. They found that animation did result in learners developing a better functional mental model of the pulley system whereas user control of that animation had little effect. The effect of user control may, however, be related to the nature of the task being learned. In the case of more procedural learning, in this case the tying of nautical knots, Schwan and Riempp (2004) found control to have a strong effect.

Finally, the effect of realism was investigated by Scheiter et al. (2009) who compared learning from realistic animations in the form of video microphotography of a form of cell division, mitosis, with schematic animations of the same process. By comparing pre-viewing and post-viewing tests they found that, while all students learned to some extent, viewing the schematic animations led to better conceptual understanding. Pragmatically, however, while schematic animations may lower the cognitive load on the learner by removing irrelevancies, current technology enables realistic videos to be produced more easily so they remain an attractive option for use in teaching.

In practice students rarely learn from a single type of visualisation. For example, they may have access to both a video and an illustrated account of the process written in a textbook. Consequently, the effectiveness of visualisations as learning aids is dependent not only on understanding the meaning of individual visualisations, but also on appreciating the relationship between the different visualisations (Ainsworth, 2006) and, subsequently, the relationship between visualisations and the real world. Students' prior knowledge and the ease of understanding of the procedures may be a crucial factor enabling this appreciation to occur.

"It should be noted that the functions that representations serve often depend on learners' knowledge and goals not system designer's intent" (Ainsworth, 2006, p.189)

In this paper we report the findings of a study comparing the use of realistic videos as teaching aids for practical techniques involving different types of equipment. The study has two research questions:

- What benefits do second year undergraduate biological science students perceive from video demonstrations of a) fieldwork and b) laboratory techniques?
- To what extent do such videos influence the development of students' scientific thinking?

Methodology

Setting: The research was carried out in a post-1992 university in the UK within the field of biological sciences. The study involved two second year undergraduate modules. The first was a module entitled Biomedical Analysis in which groups of 8-9 students undertook a series of biochemical and physiological practical investigations designed to develop their understanding of clinical disease states. This module has been previously described since it formed the basis of a prior study (Merry et al., 2010). Five short videos (approximately 5 minutes each) of tutors demonstrating specialist biomedical equipment such as analysers of biological fluids that students would be required to utilise in the module's practical sessions were uploaded onto the module website. These were made available to students before the sessions and also after the sessions for revisiting with no restrictions on the number of times that students viewed them.

The second module was entitled Marine Zoology and here a similar number of videos demonstrating species identification and ecological sampling techniques using simple equipment such as quadrats were shown in class to cohort groups of students before they undertook a coastal practical field trip involving the use of these techniques.

Participants: Pragmatic considerations including student availability, cohort sizes and compliance with the wishes of module tutors necessitated different approaches for each of the two modules. The whole of a single cohort of 43 Biomedical Analysis students were invited to complete questionnaires and 29 (67%) did so. For Marine Zoology focus groups of 4-6 students were derived from each of four different cohorts of students by opportunistic sampling. The cohorts were from four different academic years and were designated A-D. Each focus group represented approximately 30% of the students in the cohort and in accordance with institutional ethical procedures all focus group participants gave informed consent before taking part in the study. To endeavour to assess the impact of the videos each focus group was interviewed on up to three occasions as described in *Procedures*.

Instruments: The Biomedical Analysis student module feedback form contained three open ended prompts which provided data for this study:

1. 'Please add your comments on those aspects of the module that you enjoyed/found most interesting.'
2. 'Please add your comments on those aspects of the module that you found most difficult.'
3. 'How did you use the video demonstrations in Blackboard? We would like to know what you thought of them, and what you think we should add.'

Prompts 1 and 2 facilitated student responses concerning equipment usage and data analysis. Prompt 3 was to directly collect perceptions and usage of the provided videos.

Marine Zoology focus groups were carried out in order to investigate students' perceptions of ecological sampling and survey techniques including what factors are influential in the development of those perceptions and how the perceptions contribute to their overall view of themselves as professional biologists. The focus groups were semi-structured and the schedule primarily concerned:

- understanding of ecological sampling and survey techniques
- perceptions of independent project work
- understanding of ecological habitats and how this affects their overall conceptions of biological processes

Focus group discussions concerning prompts 1 and 2 collected student perceptions of equipment usage and data analysis. Within discussions concerning prompt 3 student perceptions of the provided videos were explored.

The schedule was developed as described by Fielding (1993). Briefly, this involved (i) identifying topics surrounding the research questions (ii) clustering and sequencing of relevant topics and (iii) designing informal interview probes. The same schedule was used for repeat focus groups.

Procedures: Hard copy questionnaires were distributed to Biomedical Analysis students at the start the final taught laboratory session of the module. They were anonymous and students were invited to complete them during the session. At the stage of submitting questionnaire responses, students had completed the taught component of the module, but had not yet undertaken their final module assessment.

Table 1 provides details of the timing of the focus groups in relation to the progression of the student cohorts through the Marine Zoology module. Focus groups were conducted at particular time points such that a sense of the relative impact of the videos and the coastal field course practical work could be developed. All participants had prior experience of viewing laboratory specimens of marine organisms and of practical field work in non-coastal settings.

All focus groups were confidential and the data generated was anonymous. They were conducted by two of the authors of this paper who had no input into the teaching of the module. Focus groups were audio recorded and the researchers also made contemporaneous notes. Transcriptions were made from the audio recordings.

Student Cohort	Group No.	Videos viewed	Field Course undertaken
A	A1	No	Yes
B	B1	Yes	No
C	C1	No	No
C	C2	No	Yes
D	D1	No	No
D	D2	Yes	No
D	D3	Yes	Yes

Table 1: Student Focus Groups

Analysis: A semi-quantitative analysis of the Biomedical Analysis questionnaire responses was undertaken. All questionnaire responses were read by a single researcher who derived a coding framework to classify comments into themes (Creswell, 2008). The frequency of each theme was then determined.

Qualitative analysis of student interview data involved clustering of units of relevant meaning (Cohen, Manion and Morrison, 2007). Two authors independently read the transcripts and agreed themes and representative quotes in subsequent discussions.

Results

Questionnaire data were collected from Biomedical Analysis students at a single time point at the end of the taught component of the module. In the case of Marine Zoology students repeat focus groups were conducted to identify progressive changes in thinking following exposure to the video exemplars and subsequent fieldwork. However such changes were not apparent on initial reading of the transcripts and so the data from all the focus group sessions was combined and four overall themes were identified. These were perceptions of the video exemplars, motivation for practical work, contribution of prior practical experiences to learning, and perceptions of data analysis as problematic. Three of these themes also emerged in the Biomedical Analysis questionnaire data enabling comparisons between the two student types to be made. Possible reasons for the limited impact of the Marine Zoology video exemplars are explored in the Discussion section.

Students' perceptions of the video exemplars: Eighteen Biomedical Analysis students (62% of respondents) reported that they found the videos useful, although why this was so and how they actually used them was not recorded. Contrastingly, 7 students stated that they did not use them. Reasons for non-engagement were long download times (2 students) and the fact that the videos were located separately from the practical schedules (1 student).

Marine Zoology students showed less enthusiasm for the videos. They generally regarded them as not being authentic investigative science as the following two quotations from focus group D2 illustrate:

"Well no, this person what was on the video was obviously doin' it for educational purposes."
(Student 2)

"It's not like they were researchin'!" (Student 3)

Student motivation for practical work: Biomedical Analysis students reported the following aspects of the module as being enjoyable or interesting: a) the diversity of practical work (13 students), b) using different equipment (9 students) and c) undertaking practicals based on humans (8 students).

Marine Zoology students also demonstrated motivation for practical work as illustrated by the following exchange from focus group D1:

"It's all well and good talkin' about somethin' that you can only see under a microscope..."
(Student 4)

"...Or on a video!" (Student 3)

“Ermm ...yeah or from a distance, but when you’ve got it...almost in your hands at the time, I erm, I think it gives yer a different response to it, and when you can, when you can link somethin’ in with somethin’ you know already, you – know you come on in leaps and bounds” (Student 4)

Contribution of practical experiences to student learning: While it was not directly sought in either the Biomedical Analysis or Marine Zoology prompts, the influence of practical experiences in general did emerge as a strong theme within the Marine Zoology student focus groups as the following three quotes illustrate:

“Oh, for me personally it’s volunteering...like woodland management and grassland management, I’ve picked up a lot of ahhh, helpful techniques...from that.” (Group A1, Student 4)

“I actually remember it better if I can see somebody...actually performin’ it an’ doin’ it, because you produce a picture in your mind don’t yer!” (Group D1, Student 3)

“Er, um - well [name of tutor]...mentioned about it he said, that you – know ecologists tend to be, er quite a practical bunch, an’ if...an’ if a stick...will do the same job...you’ll use a stick...” (Group D1, Student 5)

Importantly, Marine Zoology students used their practical experience to interpret their existing knowledge so placing it into context. This is illustrated by the following exchange from focus group A1:

“...ahumm.. well learning the literature before I went up there [to the field course] and looking at the dead examples that we’d got and you suddenly find yourself going ‘Oh yeah-hh, that’s why it’s there...” (Student 4)

“And they’re more colourful live than dead.” (Student 2)

They also developed their scientific thinking through practical experiences as illustrated by the following two quotes:

“...an’ during, during the practical [field course] I – I really sensed...no, you’re not right about this an’ I’ll show you why you’re not right, an’ I really didn’t expect myself to say that.” (Group D3, Student 5)

“...you’ve got less control over things like what you’re measuring then it’s difficult to erm, say how much er-of-er, how much of a scientific judgement you can make...” (Group B1, Student 6)

Data analysis was seen as problematic: While 4 Biomedical Analysis students reported that they enjoyed/found interesting working with data, 14 students stated that they found it one of the most difficult aspects of the module. One student, as a free text comment, stated 'Data analysis should be a module on its own'.

Marine Zoology students also perceived data analysis as problematic as illustrated by the following quote from focus group C2 and exchange from focus group C1:

"...we could almost do with a statistics module or a...not a marked one! Just like a...like a tutor course or something like a crash-course" (Student 2)

"...its useful to have someone to say ...or help you with your weak points which maybe probably be my statistics ...I could do the research by myself but I'm going to need help at the end, to make it make any sense..." (Student 4)

'Yeah like [name of student] said I'll probably need help with, statistics so, I'll have to ask someone or research...probably go to project tutor.'" (Student 3)

Discussion

Our data suggests that video exemplars of practical techniques were more favourably received by students undertaking a biomedical module (Biomedical Analysis) rather than an environmental module (Marine Zoology). Secondly, both Biomedical Analysis and Marine Zoology students seemed highly motivated to undertake practical work so observed differences between the two types of students could not be attributed to different levels of enthusiasm. Our findings are consistent with McLean and Denning (2000) who have previously argued that 'self-regulation and the ability to monitor one's own learning is motivating' (p.475). Self-regulation in terms of the need to make judgements as to how best to proceed would seem to be an intrinsic characteristic of the practical work undertaken by both types of students and hence a potential cause of students' enthusiasm. Thirdly, the repeat sessions conducted with individual focus groups of Marine Zoology students failed to identify progressive changes in their scientific thinking following their exposure to the video exemplars. For these students practical experience itself seemed to be a dominant factor steering their thinking. Finally, while high motivation for practical work was evident, both types of students expressed concerns regarding data analysis. It is interesting that students themselves identify a deficiency that has been highlighted by the UK Government (Great Britain, House of Lords Select Committee on Science and Technology, 2012) in relation to the provision of graduates with appropriate skills for employers. This is a matter of concern both in the longer term suggesting changes to teaching curricula, but also more immediately in that it may lead to students selecting less challenging 'safe' project work which may not fully develop their overall skill set.

One factor that may have been influential in creating the different responses to video exemplars between Biomedical Analysis and Marine Zoology students was the complexity of the equipment being demonstrated. For Biomedical Analysis students the videos concerned specialist partially automated equipment for the measurement of human body fluid and physiological parameters. The equipment was unfamiliar to students and it required a defined sequence of activities, often a sequence of keys on a keypad, in order for the equipment to generate the data outputs required, which were typically precise numbers on a visual display. As such the videos were procedural in nature and students were subsequently required to replicate the sequence of actions in the following practical session. Marine Zoology students, however, were presented with videos involving relatively straightforward equipment with principles of use that could be easily understood. Nevertheless, while the equipment was straightforward, the findings were not always obvious. For example, to generate data from a placed quadrat may require the user to apply prior knowledge and observational skills to make judgements concerning species identification and number of organisms present. The learning that the Marine Zoology videos were endeavouring to facilitate therefore had an abstract and conceptual component that was less evident in the Biomedical Analysis videos. Students were not required to learn a prescribed sequence of actions, rather to use the videos as illustrative material to learn how identification and judgements might be made. This type of viewing imposes a greater cognitive load on the viewer (Schwan and Riemp, 2004) which was likely to be further increased in the case of Marine Zoology students by the lack of availability of the videos for repeat viewing.

A second possible contributory factor for the differences in student perception of the videos may have been the identity of the individuals demonstrating the techniques in the videos. The Biomedical Analysis videos, like those used by Croker et al. (2010), were produced by a course tutor who presented the technique in the laboratory in which the students worked. This contrasted with Marine Zoology videos which were obtained commercially. They were of higher professional quality, but the presenters and locations were unfamiliar. We have shown previously (Orsmond et al., 2005) that learning from tutor feedback is influenced by students' perception of that tutor. Analogously, the familiarity and students' views of the video presenter are likely to influence how the message is perceived.

Thirdly, the temporal separation of the viewing of the video exemplars and performing the techniques may have influenced students' perceptions of their value. In the case of Biomedical Analysis the videos were available for the students to watch immediately before the practical session and this contrasted with Marine Zoology where videos were viewed in the university typically three weeks before the fieldwork was undertaken.

Taken together, these factors would seem to be important in shaping how video exemplars might be more effectively used to support students' learning in practical situations. Interestingly, the study described by Croker et al. (2010) contained each of these factors in that the learning was procedural, the videos were produced by the course tutors and viewing was

not separated from the practical sessions. Croker et al. (2010), however, failed to suggest these factors as a crucial component of the successful teaching intervention that they report and this may have been because their study was descriptive of a single setting rather than comparative of video usage in different contexts. Perhaps a further unidentified factor in the success of the study of Croker et al. (2010) was the peer discussion that they engendered by making the videos available to students at small group workstations. The benefits of peer discussion when utilising written exemplars in a variety of disciplines have been outlined by Hendry (2013) and it is to be expected that peer discussion of video exemplars would be equally beneficial, although this was not a component of our current work.

Finally, our study highlighted students' concerns regarding data analysis. Both Biomedical Analysis and Marine Zoology students found this a more challenging aspect of their learning and both types of students requested further support in this area. This concern is interesting because it contrasts with their general enthusiasm for practical work which generates data, and also reflects concerns expressed by employers as outlined by the Great Britain House of Lords Select Committee on Science and Technology (2012). In addition to longer term aspirations of providing appropriate graduates for others to employ, it is suggested that there is a more pressing need to address this situation because of the possibility that it will cause current students to choose more straightforward, less challenging, final year projects in order to generate simpler, more manageable, data sets. Students who take such options are likely to lose opportunities to develop some of the professional skills required by employers.

A particular limitation of the current study was that it included comparisons between modules where data was collected using different methodologies. Hence further studies comparing the use of video exemplars of practical techniques of different complexities, familiarity and ease of data interpretation are required to both corroborate our conclusions and to identify, more precisely, the factors that most strongly affect effective video use. Student ability is also likely to affect the effectiveness of video exemplars. Orsmond and Merry (2013) showed that high achieving students process the information within tutors' feedback in different ways to non-high achieving students. Analogously, the information within video exemplars may be also processed differently and studies are required to investigate such differences so that tutors do not use video exemplars in ways which cause cognitive overload to some of their cohort. Finally, the perception of students of data analysis as problematic and its potential to affect project choice warrants further investigation to determine if this suggested correlation is genuine.

In conclusion, our data provide some lessons for tutors concerning the use of video exemplars of practical techniques within their teaching. Such videos are likely to be most effective when they involve complex procedural techniques using equipment that is unfamiliar to the students. It is also recommended that students should have free access to the video exemplars for repeat viewing and videos featuring their current tutors as presenters will be preferable to commercial programmes despite the likely lower technical quality. Furthermore, learning will be promoted if

peer discussion of the video exemplars is facilitated, possibly by also making them also available during the practical sessions. The implications of students' perceptions of data analysis as probelematic need to be elucidated in future studies.

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Developing students' research and inquiry skills from year one: a research informed teaching project from the University of Sunderland

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Abstract

Foundation degrees developed and validated by Higher Education, (HE) institutions but delivered in Further Education College (FEC) partnerships often recruit mature students with a broad range of entry qualifications, equivalency and work experience. This article presents a research project from 2009-10, involving students and staff in three FECs on one foundation degree and considers how (HE) students' expectations can be addressed, their potential developed and gaps in their scholarship and research skills closed during early transition from further education (FE) to HE. Research methods included video and audio recording of students' voices, pre and post questionnaires at either side of skills workshops and focus group interviews at the end of the project. The findings indicate a mis-match of students' expectations with the reality of HE study, misunderstandings of the language of academia and lack of awareness, skills and confidence in the use of journal articles and other academic resources to support their inquiries.

Key words: Higher Education (HE), Further Education Colleges (FECs), Research Informed Teaching (RIT), Research Active Curriculum (RAC), Research Skills, Scholarship

Introduction and Background

In 2009, the University of Sunderland initiated a Research Active Curriculum, (RAC) policy, driven by raised awareness of the challenges of Research Informed Teaching (RIT) (Jenkins and Healey 2005) and influenced by a working relationship and consultations with Jenkins, known for his contribution in this field. This followed QAA Scotland Enhancement Themes conferences which promoted several key themes, of which one was Research –Teaching linkages as being key to the enhancement of undergraduate attributes, Land and Gordon (2008).

At the University of Sunderland this was translated into a RAC policy which would:

"Engage our learners throughout their programme of study, from first entry, as active participants in enquiry, research and knowledge creation relevant to their discipline(s) and/or professional practice...." and that: *"The curriculum will be designed to promote progressive development of graduate research attributes fostered through increasing student engagement in enquiry and understanding of research in a structured way through all levels."*
(University of Sunderland, 2009, p.2).

In order to grasp the complexity of the concept of RIT, discussion booklets provided by the Quality Assurance Agency Scotland (QAA 2006) located critical literature and as a resource, proved to be informative, timely and both applicable and readable. Although on a relatively small scale, a policy change and funding stream for RIT projects became available in 2006/07 from the Higher Education Funding Council's (HEFCE) teaching quality enhancement fund (TQEF). In parallel, at the University of Sunderland two small scale research projects had previously taken place in isolation from one another. Firstly, Stevenson in 2007, a specialist librarian, investigated students' engagement with a broad range of information resources to support their academic work and subsequent compilation of comprehensive bibliographic references. Secondly, O'Keefe, in 2008 had actively provided opportunities for year one students to practice their sourcing, discussion and use of credible academic literature. Collectively these projects had begun to address the introduction and use of refereed academic journals in the first year of higher education studies and provided a practice element embedded within core curriculum that encouraged early scholarship from academic texts, and the development of questioning techniques and critical thinking. These former projects proved to be successful with their target cohorts and the 'hands on' practical approach facilitated active learning, enabling students to participate and make a significant contribution to their own programme of study. These scholarship skills interventions aided and ultimately improved the quality of reading, referencing and the number of citations in written submissions, which positively impacted upon students' summative marks. Such activities helped to move from a

reliance on the transmission of knowledge, to an environment which provokes inquiry and acquisition of new knowledge (Brookfield, 1996).

The work of the specialist librarian and academic prompted a joint bid to seek funding for a small scale RIT project with the aim to consider how HE students' expectations could be met, their knowledge potential developed and gaps in their research and enquiry skills addressed during the early transitional stages from FE to HE level study.

The objectives of the project were to enable the sample group to:

- Access flexible learning opportunities
- Participate and engage with materials
- Apply skills of research and critical thinking
- Utilise existing knowledge and experience

The project provided three cohorts of students and staff with research and study skills workshops, supported the use and practice of e-learning resources enabling participation and engagement with largely unfamiliar methods and materials.

There has been a recognition that HE students need to move from merely searching for information to applying research skills and developing the attributes of questioning and enquiry from the earliest stages of their educational journey. Breen and Lindsay, (1999); Barnett, (2005) and Childs et al. (2007). Addressing these issues on a small scale provided a stimulus for research into the practice of scholarly and research skills.

Review of Literature

The quality of teaching and learning to respond to student's expectations is not a new issue. Students may have unrealistic expectations of higher education and may underestimate the degree of self-direction, and group learning which is expected of them. As (Gibney et al., 2008, p.1) explained:

'...the programme of study, their chosen university, teaching styles or time required for study are not usually accurate'.

It seemed in the light of such findings that it would be not only sensible, but logical that such knowledge of student behaviour, expectation and skills had the potential to be worked with. Suggestions from Krause, Hartley, James and McInnis (2005) set out to improving holistic institutional approaches in the earliest days at university. They draw on what is known of students' initial expectations and focus on increasing student engagement as a critically important approach from the earliest stage to help to reduce the anomalies between expectation and reality of HE study.

In a world of malleable pedagogies and quality assurance systems for teaching, adult students who enter education have encountered various modes of “*transmission*”, “*constructive learning*”, “*didactic exposure*” and “*early reflection*” (Gipps and MacGilchrist, 1999) cited in (Mortimore, 1999, p. 50). These education systems have a variety of complex structures, conventions and cultures for operation and policies from statutory schooling and into further and higher education.

The structures surrounding the students and staff in this study span multiple domains of work place, home, FEC and HEI. A concept when considering these students who both earn and learn, can usefully be described as a process of undertaking roles by ‘...*being –in- the -world*’ and learning by “*operating in a mode of average everydayness*” (Dall Alba, 2009, p.35). As such, students who remain in their working roles while undertaking study, bring with them a range of skills and attributes gained from their experiential knowledge (Kolb, 1984). This premise provided a useful starting point for the educational intervention workshops as the teaching and learning needed to be carried out tentatively, and most importantly, should consider the possibilities of what the students know, as well as don’t know.

Land and Gordon (2008, p.13) suggested that academic staff should consider new ways of working with students in their first years of study, to develop:

“...creative ways of authentically aligning the research priorities of the disciplines with the needs of undergraduate learning”.

This notion of being authentic with the students requires a flexible approach that recognises them, and their ownership of learning while maintaining integrity for each of their experiences. This can include pedagogical issues and scholarly understanding but should also recognise that information literacy and research and enquiry skills help to orientate students into HE, are transferable and recognised as essential for their future employability, as outlined in the Leitch review (HM Treasury 2006)

This links to the government agenda of increasing a graduate workforce who leave education equipped for work (HEFCE, 2003) whilst responding to the notions of teaching and learning of generic graduate attributes for the twenty first century (Barrie, 2007). Recently the Higher Education Academy, (HEA), commissioned research (Healey and Jenkins 2009) to examine and report on the relationship between teaching and research in HE. The resulting findings assert that the goal of an RAC is to ensure students pursue their own questions, scenarios and lines of enquiry, so that they are producers and not just consumers of knowledge. In order to achieve this goal, students need to be active participants who undertake research and inquiry from the beginning and throughout their HE journey.

In the vocational domains linked to FD Degree programmes, skills can be based on own working and student practice as well as research based evidence. (Parahoo, 2006).

An advocate of the lifelong learning agenda Claxton, (1999) proposed the idea of being mindful, rather than mindless and warned of the need to develop habits and dispositions of mind. He encouraged:

"...being reflective means looking inward as well as out, making explicit to ourselves the meanings and implications that may be latent in our originally unreflective know-how"(p.191).

He further extolled the virtue of learning as being a personal adventure, one that provokes a range of emotions ranging from positive to negative, with the challenges posed, often leaving the learner in a somewhat "*ambiguous position*". (p.40).

This idea presents the notion that expectations of HE students are rarely met, but they arrive with a range of pre-entry knowledge, attributes and support systems (Tinto, 1993). However, little is understood about the "*tacit understanding*" or "*implicit expectations known to aid in the mastering of an HE student role*". (Collier and Morgan, 2008, p.245). This illustrates that many undergraduate students discount, misunderstand or fail to grasp the importance of what to include in tasks, how much and what to read, and how to balance the extent of scholarly activity, including submissions of assignments, with the other commitments in their lives. Such a position can be nullified in a safe, supported and interesting space which allows students to realise their learning potential, which in turn activates learning power and resilience (Claxton, 2002). The idea of transition and learning the new dispositions and parameters of a student's role seem to allow for growth made possible by personal commitment and the organisation of those who enable us to become professional (Dall'Alba, 2009). Knowles, (1985), in attempting to develop a theory specifically for adult learning, considered that adults need to be at the centre of their own learning, and introduced the use of the term, '*andragogy*', emphasising that adults are self-directed and expect to take responsibility for their decisions. A fundamental aspect of andragogy assumes that adults need to learn experientially, approach learning as problem-solving, and learn best when the topic is of immediate value. This theory of adult learning was further developed by the work of (Tight, 1996) who elaborated upon the need for a space to develop own ideas, engage in dialogue and raise awareness of critical thinking. Personal framing of thoughts, using the social, political and economic contexts or lens can begin to enable us to recognise and learn about ourselves, as well as parameters of our thinking processes. Such ideas are reflected in critical thinking as a means to change both your personal and professional life. Paul and Elder, (2002, p.56) encourage the use of reflection, and explain that when:

"...taking charge of our own thinking we become something more than clay in the hands of others, to become in fact the ruling force in our own lives".

Staying intelligently engaged with learning challenges, despite there been unfamiliar, words, procedures and activities is a challenge for new HE students. In contrast, pedagogical approaches in early childhood education encourage children to internalise and naturalise an

ability to keep trying, and have another go, which ultimately builds up their self esteem through positive reaffirmation. Adult students need to develop such skills while learning new skills for reading, writing, deconstructing and reconstructing knowledge. Williams (2009, p.xii) explains the need to:

“...discriminate, make judgements, set one view against another, and ultimately take responsibility for your own judgements and actions”.

Although academic staff may be conversant with the expectations of study and QAA level descriptors, learning outcomes and marking criteria, they often fail to communicate this explicitly to their students (Collier and Morgan, 2008). There is a need to enable this at an early stage to ensure students are fully informed and better prepared for the rigours of HE study.

Using the approach of becoming active and connected in study (Healy 2005) developed a model of curriculum design and the research-teaching nexus, (see figure 1) and endorses this as an essential element of the curriculum for undergraduate research and enquiry.

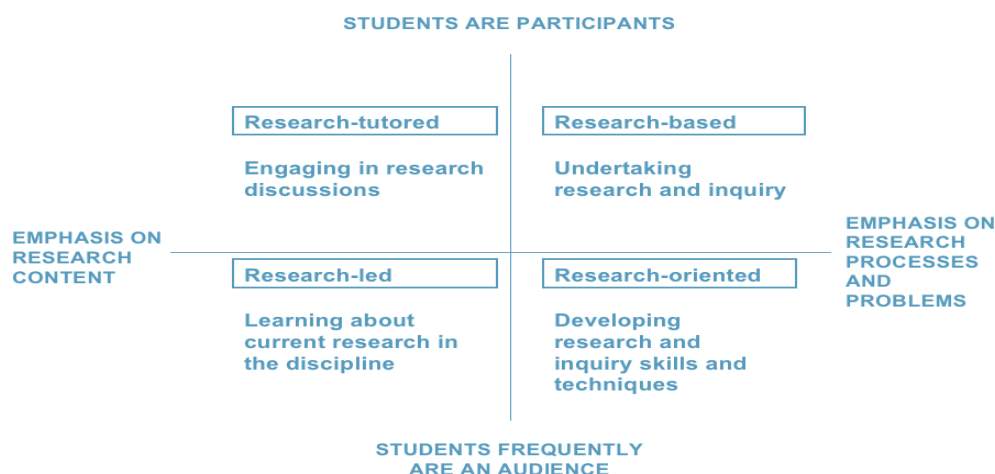


Figure 1: Research-Teaching Nexus (Amended from Healey, cited in Healey and Jenkins (2009, p.7))

This model outlines four approaches linking teaching and research, which illustrates the dual roles of students as active participants of research and more commonly occurring, as an audience having research transmitted to them. The educational interventions described in this study addressed the emphasis on research processes and problems and the delivery of the skills workshops aimed to develop enquiry and research skills by introducing participants to the online tools and resources available from the university library. Crucially, these intervention workshops would allow the students to practice these skills within the context of their current studies along with their FEC lecturers and with support from the HE staff.

This work has enabled improvement in early engagement with students and ignited an excitement of learning and "...a way of enhancing motivation of both academics and students..." (Brew, 2003, in preface to Jenkins et. al, p.3). This was a shared learning process which could draw on collegiate knowledge and reframe it to adapt "...to new ways of knowing: new ways of understanding, interpreting and organising knowledge"(Lea and Street, 1998 p.158) and to also understand the conventions of HE, leading to the understanding or breaking the code of academia (Gibbs, 1994 and Brookfield, 1996).

Educational interventions

In order to locate and contextualise the interventions, we worked alongside college staff to embed skills workshops within a study skills module which was the first module in their programme of study.

The purpose of the interventions was to challenge students' expectations of HE and encourage them to think about their preparation and dispositions for becoming study ready (Boud and Miller, 1996). They were also asked to consider their resilience, resourcefulness, reflectiveness and reciprocity as advocated by Claxton (2000). Opportunities to practise becoming scholarly and developing critical thinking skills of logic, significance, relevance and accuracy (Paul and Elder 2004) were provided by hands-on practical intervention workshops, intended to observe any mismatch between lecturer and student expectations of learning.

The workshops were developed and jointly delivered by the authors with observation and contributions from the programme lecturers in the FECs. The workshops were delivered in three stages and had distinct themes.

Workshop 1

Demystifying Higher Education

This workshop began by utilising existing knowledge of the students' earlier experiences of study, as this is known to colour educational experience. Specifically we sought to discover and explore how they had prepared for their higher education programme of study. Students were asked to consider the question, '*What is Higher about Higher Education?*' Participants had many questions about the language of university and this session provided an opportunity to interpret unfamiliar terminology and explanations of conventions used. Students were encouraged to create their own glossary of terms to interpret what we termed 'academic gobbledegook'.

The students were given a written copy of the QAA level descriptors for foundation degrees and this was discussed and interpreted, particularly the notes relating to the need for students to be able to:

“undertake critical analysis of information, and to propose solutions to problems arising from that analysis” and to, “effectively communicate information, arguments and analysis in a variety of forms.” (QAA 2008)

All participants completed the first Values and Academic Skills questionnaire and a small group of volunteers from each college cohort recorded the first video diaries. The format of this was a conversation with one another about their expectations, aspirations and anxieties about studying HE study. Only the participants were present during the video recording and they were asked to limit their conversation to 20 minutes and use the questionnaire as a prompt for their discussions.

Workshop 2

Getting Critical: Moving from Search to Research

This session provided practical, innovative and flexible learning opportunities to review and learn new research and information literacy skills by access and interrogation of quality academic resources, beyond those usually accessed by the ‘Google Generation’ (Rowlands et al, 2008). This workshop took place in a computer lab and a range of online journal resources, academic web gateways and E-Book resources were first demonstrated by lecturer and librarian and then students were able to practice using the resources themselves, accessing, retrieving and downloading useful information materials to support their first written assignment.

Additionally, students were provided with printed information from a range of publications and working in pairs, were given tips to critically evaluate materials, and to question the validity and quality of the information by means of examination of author bias, language use, style of writing, currency of information and type of publication. A large proportion of time in the workshop was given to practicing these new skills and exploring the E-Journals and database services available from the university library website and this was an opportunity to resolve practical issues such as forgotten User Id and passwords and address any confusion around the use of online resources.

Workshop 3

Writing for university

The third workshop brought all student cohorts to the university and focussed on writing skills for HE assignment work. This final session culminated in a ‘Pringle Mingle’ social event enabling all three college cohorts and staff to work together,

share experiences, and most significantly informed us as researchers of the merit of the small scale study and activity workshops. This activity took students away from their smaller group size, their own lecturer and their familiar learning spaces and having met students from other college cohorts we asked participants to work with new people and explore the university's learning environments, both physical and virtual. For many participants, this was their first visit to the university campus and a tour of the library and other learning spaces was arranged to help orientate students to this unfamiliar environment.

Learning Resource pack

The RAC project funding provided the students and staff with a resource pack. While not the primary intention, these could be referred to as 'incentives'. The pack contained a series of learning tools which comprised of a high quality notebook, a memory stick, pens, post-it notes and colour coded book markers as well as the study skills handbook, *Getting Critical*, (Williams, 2009). All resources were branded with the logo, *What is 'Higher' about Higher Education?* The same logo had been used in a poster campaign run by O'Keefe to promote and raise awareness of the higher aspects of education, student and staff expectations of HE study and the programmes offered by strategic partner colleges during 2008 – 2009.

Research methodology

As the subject of this research was humanistic and in-depth responses were being sought, a qualitative approach was most appropriate. The research would take the form of a case study which would be more suited to questions of a "how" and "why" nature, providing an deep and rich picture of the issues. In investigating the definition of qualitative research, Cresswell, (1994, p.42) asserts:

...."one undertakes qualitative research in a natural setting where the researcher is the instrument of data collection who gathers words and pictures, analyses then inductively, focuses on the meaning of the participants and describes a process that is expressive and persuasive in language".

The sample

The participants identified for this research were a purposive sample. Merriam, (1988, p.52) describes purposive sampling as the method of choice for qualitative case studies and identifies purposive sampling as being:

... "based on the assumption that one wants to discover, understand, gain insight; therefore one needs to select a sample from which one can learn the most".

The selected sample comprised three groups of level 1 students at the beginning of an Education and Care foundation degree (FD) programme from three of the university's

collaborative FEC partners. A total of forty five students and three lecturers, one from each college, also took part. The students were all studying part-time and the majority were working in Early Years education settings.

The sample was predominately female and ranged in age from 22 to 54 years, with the majority of participants in the 30-45 age group.

Data Capture methods

A multi-method approach was deliberately selected, using video diaries, questionnaires and focus group interviews which were conducted one month after the last of the interventions had taken place. These methods would allow participants opportunities to articulate their thoughts, perceptions and experiences using a range of medium and enabling them to be heard from their earliest days of studying. (Rogers 2006). Students' behaviours, questions and feedback were also continuously assessed and collated during and after each intervention workshop and observations from college lecturers were sought and noted throughout the project. Initial video diaries were recorded during the first intervention workshop when students were invited to share their learning journeys up to commencement of their foundation degree programme and enabled participants to voice any expectations, anxieties and thoughts about studying for a HE qualification.

The first questionnaire, (Appendix 1), was also distributed at this point and included a series of open questions exploring individual's hopes and anxieties of their HE study; their own ideas about learning which were driven by personal experience; how they viewed knowledge and research; what they considered to be good teaching and learning and to consider the dispositions and attributes of becoming enquirers.

One month after the final workshop and social event, students were asked to complete a post activities questionnaire, (Appendix 2), to review their learning, expectations and experiences so far. Three months after the final workshop session, near the end of their first semester as HE students, small focus group interviews, (Appendix 3), were conducted with participants in each of the three colleges.

The FE staff also completed an end of project questionnaire, (Appendix 4), which

explored their personal philosophies, values and expectation of students entering HE within the FEC environment and included open questions asking them to describe their student cohort. We also asked the lecturers to explain and define their own and their students' scholarship skills. The questionnaire also provided an opportunity for staff to comment on the content, timing and relevance of the skills interventions and the embedding of these skills into course content. This was followed up by interviews either in person or by telephone to gain a deeper and richer insight into the issues raised in their questionnaire.

Ethical considerations

In qualitative research, ethical dilemmas are likely to emerge at two points: during the collection of data and in the dissemination of findings. This research was conducted in accordance with the principles outlined in the Ethical Policies, Procedures and Practices for Research (University of Sunderland 2010). A number of other sources were consulted at the proposal stage of the research project including academic colleagues from the partnership colleges who were approached to take part.

Access to participants was assured as fieldwork has been included and embedded as an integral part of the study skills module which the students were undertaking at the time of educational interventions, thus assuring an ethical and non-coercive approach.

The researchers communicated with the participants at the outset about the purpose of the research and how the findings would be reported to ensure clarity and understanding about the nature of the agreement they were entering into Bell, (2005). Participants were assured that all responses to questionnaires would be anonymous and available only to the researchers and their college tutors and that video and audio recordings would be destroyed after analysis.

Analysis of data

As the questionnaires comprised open questions, it was necessary to devise coding for these once all responses were received. Looking for similarities in responses enabled the coding to be reduced to categories then themes. The analysis of qualitative data can be an iterative process (Robson 2002) and to ensure there was no mis-representation, during the third workshop we shared the initial collation of findings from the pre and post workshop questionnaires with all participants. This process identified where further enquiry would be fruitful and formed the basis of structured interview guides. Following collation and coding of all data we were able to identify a number of main categories which were then grouped into two principle themes of learning context and learner identity. From these themes we were able to identify positive and negative categories as shown in the analytical matrix, (see figure 2).

	Positive	Negative
Learning context	<u>Known/Familiar</u> Safe and comfortable environments and support networks: (FE college, work place, peers, college tutors, friends.) Directed learning in small classes .	<u>Unknown/Unfamiliar</u> Lack of understanding of HE language, culture and conventions. Lack of familiarity with IT and online learning environments. Self-directed and independent learning
Learner Identity	<u>Aspirations</u> A desire for personal improvement and a recognition of capacity to learn, change and progress career prospects	<u>Anxieties</u> Conflicting expectations of HE study. Concerns about work/study/life balance, intellectual abilities

Figure 2: Analytical matrix

Findings

As educational interventions were a central element of the project, it was important to compare the data from pre and post questionnaires and video diaries. This would enable the assessment and possible impact of the skills workshops from both viewpoints of learning context and learner identity as identified in the analytical matrix.

Pre skills workshop findings

Findings from first video diaries and questionnaires included clear and strident vocalisation of student anxieties around the lack of understanding of HE conventions, culture and learning environment and concerns about the skills and attributes they would need for HE study. Specific anxieties included:

- apprehension of the unknown
- presentation of work
- group work and assignment submission
- requirements of time

- negotiation and balance of work/life/study
- returning to study after a long gap
- technological obstacles and lack of familiarity with IT

For most of the students in all three cohorts, this was their first experience of undergraduate study, the majority of students being the first members of their extended families to undertake degree level studies and after this first session, some had internalised their options and questioned if they were ready for this HE level academic work. Participants' comments included: *'I don't know if I can do this'* and *'I feel a lot of pressure not to let anyone down, work, and family...hope I can cope'*. However, at the beginning of the project when students were still in earliest stages of their HE programme, a number of positives were expressed and students displayed a sense of excitement and anticipation about the journey ahead. Specifically, students voiced:

- a strong motivation to succeed in their studies
- anticipation of improved career prospects
- a sense of belonging and support from their FEC lecturers
- working in a familiar environment – (many had previously studied at the FEC)

A real sense of excitement was expressed during the first video diary recordings: *'I can't wait to get started and do something for me for a change', 'I love learning new things and I've waited a long time to be able to do this'*

Post workshop findings

Findings from post project video diaries and focus groups presented more positive student observations and experiences in terms of learning context and learner identity. Specific themes to emerge were:

- increased and wider reading
- greater familiarity and confidence in the use of IT
- a gradual accumulation of skills, specifically - citing and referencing
- feeling less anxious about the course workload
- greater confidence in work situations – (contributing to staff meeting and giving presentations)

When asked if their expectations matched their experiences, almost all students stated that they expected the work to be difficult and this had indeed been their experience. However, a large majority also stated that the experience had been far more enjoyable than they expected. Specifically, finding new friends, meeting challenges and exceeding their own expectations had excited them and energised their learning. Forming critical learning friendships and the use of technology from mobile phones to 'Facebook' to communicate collegiately was particularly important for those participants in the most rural cohort who found it difficult to meet on a regular basis outside of scheduled class times. Almost all students during focus group interviews stressed that the greatest source of help and support had come from their fellow students, critical friendships and informal study groups which had formed throughout the year. This came though most clearly in the focus group interviews when students told the researchers about how much they had relied on one another for help and support: *I don't know what I'd have done with the other people on the course* and *We've all been there for each other when times were tough*.

Many students were surprised at the amount of reading they were expected to undertake and found this difficult to time manage in their earliest days of study, but were finding strategies that helped them to cope. Comments included, *How am I going to fit all this in?* and *The reading list has 15 books on it and that's just for one module*.

Additionally, a number of students said that their initial anxieties about the level of study and work required increased after the first workshop session, the theme of which was *Demystifying HE*.

Students stated in the focus group interviews: *"I was more confused than ever after the first visit"* and *"I actually thought of giving up when I realised how much I didn't know"*. This highlighted the idea that the language of academia and its assimilation and usage by students needed to be addressed from an early stage and signposted the importance of quality induction by both university and college.

When asked which skills and knowledge they thought they had most improved upon, almost all students agreed that they were now reading more widely and were accessing a greater range of information resources. In addition, all were now using academic journal articles to support their assignment work. Citing and referencing was also high on their list of new or improved skills and most felt more confident in this area and perceived their written work had improved as a result. One student told us, *I whizz through my bibliographies now....it used to take me nearly as long as the essay itself* and another, *I look back on my first piece of work and what I do now and it's so much better*.

When questioned about the process of research, most students were able to link research to the creation of new knowledge and all could judiciously articulate research and enquiry as being an essential element of their HE studies. When speaking freely within the focus groups the students agreed that they had begun to question their own pre-conceptions and the ideas and opinions of others both at home, in the workplace but also within the portrayals of the literature

they were accessing. One comment from a student was particularly encouraging, *'I can't stop asking questions....at work, at home, I can see people thinking, what's got into her...it's brilliant'*

Over the period of research a number of students subsequently talked about developing a range of useful study skills throughout the year, such as summarising, scan reading and noting key themes in texts and described how undertaking the initial study skills module had also helped them to focus and reflect on their learning.

In discussions about the barriers participants had encountered throughout the year, the most repeated complaint was the lack of compatibility between the university and college e-learning portals and difficulty accessing E-resources.

Findings from staff

Three lecturing staff, one from each college, were given questionnaires and interviewed to discover their perceptions and observations of the students' learning journey thus far and also to reflect on themselves as teachers of HE programmes in FECs.

The main themes to emerge from their observations of the participants were:

- High levels of motivation
- Strong peer support
- Initial anxieties about transition from FE to HE
- Students beginning to display high level skills towards end of the project

Staff were first asked about their expectations of their students as they entered HE and if these had changed across the academic year. All staff commented that as mature non-traditional students, there was an expectation that students would be highly motivated to learn and would bring a range of useful life and work experiences to their studies. However, there was also the belief that the step from level 3 FE study to undergraduate level one work would present a number of challenges, including the ability to study independently, lack of confidence and anxiety about volume and level of work expected and the disparity ICT skills.

One respondent commented, *'There is an expectation that students have a certain level of study and IT skills, but I know that mature students often do not have this pre-requisite when they start the course'*.

Another respondent stated that she had been surprised and encouraged by how students had strived to overcome challenges and worked well as a group to support one another through difficulties and crisis of confidence. When asked how they had observed their students had developed during the year, all three respondents commented on improved skills and knowledge in the areas of higher level reading and writing and listening skills, self and peer assessment, presentation of work, particularly in citation and writing bibliographies.

Two respondents stated that their students were developing critical thinking skills and were becoming adept at evaluating and questioning sources at a much deeper level. All agreed that students' confidence had grown at a rapid rate and also observed that the students' perceptions of themselves had improved within the first six months of study and a number had applied for and been awarded new positions of employment, some of which were at a higher level.

The lecturers were also questioned about the process of the intervention and in particular the timing and content of the skills workshops. All felt that the content was appropriate to the students' needs and enabled a greater understanding of what it meant to be a HE student. However two respondents stated that after the initial session, students' concerns initially intensified and their groups experienced a period of doubt and lack of confidence in their abilities to meet the challenge of HE study.

One lecturer also thought that the three hour sessions were too long and it would be appropriate to have more workshops of shorter duration and reflected that, '...*they were very in-depth and with lot of information in a short time. The content was useful but after the first session, students were somewhat unsettled*'. This aligned with findings from the student cohort, some of whom felt overwhelmed by their lack of understanding of HE in the initial workshop.

All staff agreed that the skills workshops they would most wish to be expanded upon was the exploration of academic literature, in particular from E-Journals and other online academic sources. All agreed that this was a very useful workshop but they would appreciate further support for their students to enable them to practice searching, retrieving and evaluation of literature.

Lecturers were asked about their own perceptions of themselves and their learning experiences throughout the project and all commented that it had been a positive experience for them as well as their students and they had become more aware of E-resources and accessed E-journals and academic websites on a more regular basis. Two respondents stated that they would appreciate further support in this area and would be interested in specific staff development sessions on access to academic literature.

Discussion and reflection of findings

The research revealed that the motivation of the participants was extremely high and the reasons given by most students for embarking on a course of HE focussed on gradual accumulation of skills and knowledge which would ratify their educational identity, their work place positions, or provide potential for new higher level posts or second chance careers (Reay et al., 2010); (Ibarra 2008).

The main source of anxiety for students concerned the need to balance their studies with work and family life, their level of writing skills and academic ability and the possibility of failure. One student in particular, commented she was "*putting stress on herself*" and that she did not

expect to be doing a degree "*after putting it off for so many years*". This aligns with non-traditional, mature students everyday lives and their need to balance multiple commitments and are what Donaldson and Graham (1999, p.25) term

"multicultural". The challenges for the students in this study lay not just in developing their own social identity in an HE learning community but more importantly, for them to strike a balance between their academic and external commitments that would enable them engage sufficiently to achieve academic success. This contrasts readily with the encouragement and persuasive message of Claxton who explains the need for '*Stickability*' or '*...Intelligent engagement with learning challenges despite difficulties and or set-backs...*' (Claxton, 1999, p.55).

In terms of their own learning none of the students in any of the three cohorts considered that they would be engaged in scholarship or research during their HE studies. This resonates with the research literature which suggests many students come to university lacking the skills needed to immediately engage in independent academic study, (Reason et al., 2006; Hussey and Smith, 2010).

When asked about the intertwining of learning and research all students were confused by this question and were not able to articulate what was meant by research and/or critical thinking. Most believed that research was '*what other people do,*' or may be something which builds upon what you already know, but as an individuals were personally removed from this process. The students also felt uncomfortable questioning the value and the merit of others work and when tasked with critically analysing texts and found it difficult to be judicious and critical of others, whom they perceived to be experts in their field. Many of the students felt research for them was about finding answers and solutions rather than areas for further investigation. Their responses appeared to be very dogmatic and were limited to a narrow or singular way of responding.

Throughout the project there was a repeated emphasis on learners being '*active*', and providing learner engagement which was tangible, dialogic, moving, iterative and changing, thereby providing an identity of a living curriculum (Knowles, 1985 and Tight, 1996). The collaborative work of librarian, university and college lecturers led to a sense of "connectedness" and activating ideas across service and faculties inside and outside of the university as illustrated by Krause, (2007). This connectedness had helped to enable students to make their own intellectual links between the content of the subject they were studying and the skills they would need to acquire to be successful learners. This idea reflects the work of Entwistle (2009) to encourage adults to foster their own learning, to undertake challenging work and become learners who are masters of their own orientation.

Viewing the questionnaires, the question students found most difficulty with and more than 50% of students did not record a response, was one which asked them to state the attributes

of good learners: When explored during the focus groups, students were still unsure of what was meant by being an *'inquiring learner'*. Despite this difficulty in expressing the ideas of inquiry, students were explicitly demonstrating higher order thinking and inquiry skills when compared to the beginning of term and were able to describe how they were becoming more critical and questioning in terms of their learning and interpretation of academic texts. This reinforced the notion that the language of academia was an obstacle to understanding for many new students and further discussion in this area would be beneficial. In developing a RAC it would be useful to be mindful of how we can build inquiry based learning activities into teaching and learning activities in order to promote the development of higher order intellectual and academic skills through student-driven and lecturer-guided investigations and student generated questions, (Hudspith and Jenkins 2001; Justice et al. 2007). Throughout the project there was a clear polarisation of IT confidence and competence within the student cohorts but the majority of students were what Prensky terms *'digital immigrants'*.

'Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are, and always will be compared to them who were not born into this digital world.'

(2001, p.2)

This issue was exacerbated by the lack of compatibility between the university and college e-learning portals and the perceived complexity with accessing E-resources, a commonly repeated complaint from participants. As students are registered on both college and university registry systems, they are issued with two separate User ID numbers and passwords, two different email accounts and have access to two separate Virtual Learning Environments. As a result, there is a great deal of confusion as to which system and password should be used when searching for online resources such as E-Journals and E-books. The outcomes of the intervention and hands on workshops, particularly the importance and criticality of the relationship between research skills and student learning, had previously stood-alone, and relied on the colleges to inform students of the importance of developing scholarship skills. Yet, colleges and staff teaching HE in FECs paradoxically are criticised as not participating in such activities themselves, and is not appreciated by college leadership as critical (HEFCE, 2003) leading some FE staff to have an *"... unwarranted sense of inferiority"* (Young, 2002, p.282).

The idea of making connections between FEC staff and students and those in the university, using the process of activating research and teaching as a catalyst, has the potential to be developed, raising levels of confidence and competence and the notion of a *"shared endeavour"* (Satchwell and Smith, 2009). Following on from the project, one of the colleges engaged in the original research has developed its own Research Active Group (RAG) in partnership with staff from the university. University academic staff, who are active in research, are mentoring RAG members engaged in small scale research projects across a range of subject disciplines with

support from university subject librarians. After dissemination of the findings from this project within the university library, another member of library staff has been engaged in a Joint Information Systems Committee (JISC) funded research project investigating distributed learning models for HE students studying in FECs, with a particular focus on access and use of E-Resources. Early unpublished findings from this project suggest that 50% of staff in one collaborative college do not recommend the HEI subscribed academic e resources to their students. As a result of these findings a formal programme of FEC staff development, with a particular focus on access to E-Journals and other online university subscribed academic resources, delivered by university librarians, is now underway and has been well received by college academic staff. Also parallel to this project, colleagues in the university library have conducted further research in the areas of information literacy and critical thinking skills of 16-18 year students in preparation for HE.

Conclusion

The university's RAC policy provided for the first time a university wide, institutional strategic approach enabling a unifying and more collegiate direction, which sought to highlight what was either informing or activating the curriculum. The four core strands of the policy has provided a driver for a more strategic focus on students' engagement with their curriculum in a mode of research and enquiry. The ethos of teaching and learning through pedagogical research and enabling enquiry based learning has permeated through to programmes being delivered in the university's collaborative partner FECs and although still on a small scale, has had a ripple effect and demonstrates the potential to widen participation and engagement.

There has been a great deal of merit from the meeting of minds for both service and faculty and collaboration of this nature has improved the learning experiences for the student participants, and the HE teaching experience for FE colleagues teaching HE. This has also engendered a greater sense of participants identifying themselves as HE students and a feeling of belonging to the university community which was previously lacking.

Engaging level one students with the notion of scholarship and research from very early stages of HE study has been a positive experience and has enabled its participants to become more critical and inquiring learners for whom research is not *'what other people do'*. Indeed, in the present and foreseeable global economic future where students face an uncertain employment market, it is more important than ever to support them in the development of the graduate skills of inquiry, critical thinking and interpretation of the world around them and from a wider societal sense:

.....'helping students to understand uncertainty, ambiguity, complexity and change is not just valuable to their development at university and after graduation it may also be central to the future of humanity.' Healey and Jenkins (2009, p.124)

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**Appendix 1 – Pre Workshop Questionnaire
Thinking, Learning and Enquiring**

1. Hopes and anxieties

What do you hope to get out of this next year?

What do you want to become able to do?

What skills are you hoping to develop?

What anxieties, if any, do you have?

2. Ideas about learning

What inhibits learning? What enhances learning?

3. Learning and Research

To what extent, if at all do you think learning and research are related? How do you see yourself: a learner, a scholar or neither? Why?

4. Teaching and Learning

What for you makes a good teacher?

Does good teaching always mean good learning?

5. Attributes of good enquirers:

Write down as many statements you can beginning with the words: 'Inquiring learners need/should have.....'

6. Developing a taste for inquiry:

From your own experience in your field of education or training, continue the list of statements using all of the beginnings below:

I have been shocked to find that.....

I am disappointed when.....

I did not expect.....

I would really like to know why.....

It seems wrong that.....

I am concerned about.....

**Appendix 2 –End of project questionnaire
Thinking Learning and Inquiring**

1. Reviewing my Learning

Have my expectations matched my experiences?
How am I doing? Were my assignments and other tasks manageable?
Do I take notes/Read when asked/Plan my time well?

2. Learning and Research

What has inhibited my learning?
What has enhanced my learning?
To what extent, if at all do I think learning and research are related
How do I see myself: a learner, a scholar, neither? Why?

3. Knowledge and Research

How does research lead to new knowledge?
How does preparing an argument lead to new understanding?
What skills, knowledge and personal qualities have I improved upon?

4. Attributes of good enquirers:

Write down as many statements you can beginning with the words: ‘Inquiring learners
need/should have.....’

5. Developing a taste for inquiry:

From you own experience in your field of education or training, continue the list of statements using all of the beginnings below:

I have been shocked to find that.....

I am disappointed when.....

I did not expect.....

I would really like to know why.....

It seems wrong that.....

I am concerned about.....

Appendix 3: - Student Interview Guide

Thank you very much for agreeing to be interviewed today. I would like to find out your experiences and views on the skills training you have received. I will be taking some notes to help me later when I review the tape, so I may pause now again to write up the notes. Your responses will be anonymised and you will not be identified in any report.

1. Can you tell me something of your experiences of entering Higher Education? Were these what you expected?
2. How would you describe yourself – (learner/student/scholar) – (traditional/non-traditional) Why?
3. How do you feel you have developed over this past year? – Confidence/Skills/Knowledge
4. What gaps did you identify in your knowledge and skills? and how have you addressed any shortfalls
5. Can you explain the following terms and highlight the difference in terms of scholarship skills?
 - Searcher
 - Researcher
6. Looking back, do you feel the content of the skills sessions were appropriate to your needs at the time?
7. Were there any elements of the skills sessions you would have like expanded / have the opportunity to spend more time on?
8. What about the timing of the training sessions – do you feel it would be better to have done the skills training pre-arrival, eg summer taster session, when you first arrived on campus, or later in the year?
9. How confident are you using E-Resources - How often do you access them? What resources are you using for your assignment work which you did not use before?
10. Do you think you would benefit from further practice? In which areas?
11. Do you feel the quality of your assignments has improved since the skills training? In what respect?
12. How do you select, evaluate and appraise literature resources for your study?
13. You were provided with a study pack – What have you used most and why?
14. Have you been able to apply the scholarship and research skills you have learned in other areas of your life – e.g. further study/work/home and leisure activities?

Appendix 4: End of project questionnaire – Staff

1. Can you tell me something of your expectations of your students entering Higher Education? Have these changed across this semester?
2. How do you feel your students' potential has developed over this past year?
3. Were there gaps in their knowledge and skills: how were these shortfalls addressed?
4. Can you explain the following terms and highlight the difference in terms of scholarship skills?
 - Searcher
 - Researcher
5. Looking back, do you feel the content of the skills sessions were appropriate to your students' needs at the time?
6. Were there any elements of the skills sessions you would have liked expanded?
7. What about the timing of the training sessions – do you feel it would be better to have done the skills training pre-arrival, eg summer taster session, when students first arrived on campus, or later in the year?
8. Have you given students the opportunity to practice these skills in subsequent modules and do you have any plans to develop scholarship skills for level 5 study?
9. How convenient are you using E-Resources - How often do you access them? - Do you recommend E-Resources to your cohort?
10. Do you think you would benefit from further practice? In which areas?
11. Do you feel the quality of teaching and learning has improved due to skills training? In what respect?
12. You were provided with a study pack – What have you used most and why?
13. Have you been able to embed and observe critical thinking and research skills in your students?

We do not like old fashioned exams: the innovative use of alternative assessments on a Law Degree with a Foundation Year

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Abstract

Assessment methods in Higher Education will always be vehemently debated and evoke a plethora of emotions, comments and opinions. This short study attempted to scrutinise how the use of alternative methods of assessments in a foundation year award affected student retention and progression from the access year on to the traditional first year of an LLB. Learners on the award completed a questionnaire about how they felt about their assessments. The findings are discussed and the authors enter into a discussion about the idea of complementing traditional timed exams with a suite of alternative and inclusive assessments. In conclusion the authors demonstrate that student retention and progression rate reached a rate of 95% for the 2012/13 cohort.

Introduction

One could argue that the traditional unseen, time limited examination is only effective for those students whose learning style suits the demands of the method. Many students feel disadvantaged by unseen examinations and this can even have an impact on their decision to study at a Higher Educational Institute (HEI). This paper will examine the use of alternative types of assessments used on a level three 'access' or as it is referred to in this study a Foundation Year.

The study was relevant in order to meet the new and changing demands in Higher and Professional Education presented by widening access to non-traditional students and demands to improve retention and progression. It was necessary to reflect on and obtain a greater understanding of what the students thought about their assessments in order to enhance understanding of the student learning environment.

The small scale study employed both quantitative and qualitative methodologies for data collection. A mixed methodology was used for the empirical data collection. A questionnaire was used to gain an overall picture of what motivated students to enrol on a law degree with a Foundation Year (FY). This paper has used specific aspects of that research to look at the area of assessments. The findings allow for reflection on the type of learning experience these students may have and could possibly show a departure from the traditional view of the student experience. The findings also deal with the students' views on assessments and considers the improved levels of retention and progression; debating whether or not this can be linked to the use of non-traditional types of assessment.

Background and literature review

Increasingly, students studying in higher education are undertaking degrees with a Foundation Year (FY). This approach attracts people from a broad range of backgrounds, particularly people from low participation neighbourhoods, students from non-traditional backgrounds (HEFCE 2008) and provides an alternative route for those without A-levels (Ooms *et al.* 2012; Leese, 2010; Winter and Dismore, 2010). There is limited research about how progression from the 'access' year is influenced by the assessment process and this is important to inform teaching and support learning.

In 2009 one of the authors took over the position of Foundation Year Award Manager and at that time the progression rate from the 'access' year to the traditional first year of the LLB was only 33%. A decision was taken immediately to overhaul the teaching and learning package for the students with a targeted focus on using innovative methods of assessment and move away from traditional written exams. A suite of new assessments was devised based on practical role play, verbal presentations, poster presentations, multiple choice (MCQs), coursework but also retained the traditional timed exam. The various assessment types were shared equally across all of the modules to give an eclectic assessment experience (McDowell, 2002). There was an

emphasis on maintaining, to ensure that there was no 'dumbing-down' of the assessments. The award saw an increase in the number of students who were successful in their assessments and who were able to progress and the actual progression rate onto the level four for the 2012/13 reached 95% (Staffordshire University, 2014)

The study took place in a post 1992 – 'New University' located in the Midlands. This institution considered applications for the 'LLB with a Foundation Year' from students' with diverse backgrounds and each applicant was assessed individually. However, a typical 'A' level offer would be grade 'D' from one 'A' level. Applicants who were under the age of twenty on commencing the (FY) were also be required to have GCSE English Language at grade C or equivalent, or were required to re-sit this successfully during the Foundation Year in order to progress onto the LLB. Mature students were considered on their individual merits on the basis of their application and an interview (Staffordshire University, 2013).

Waterfield and West (2010) wrote primarily for an academic audience; they provided a detailed analysis of the concept of 'inclusive assessments' and championed the flexibility of assessment choice. Waterfield and West (2010, p.3) claimed that innovation in assessment practice, in so much as it might represent a challenge to this orthodoxy, was often viewed with suspicion as *'inherently undermining academic standards, irrespective of aims to the contrary'*. Biggs and Tang (2011) talked about 'performance of understanding' or active demonstration of the knowledge in question. The latter discussed the notion of decontextualised assessments such as written exams that assessed declarative knowledge and alluded to the fact that there is an over reliance on these types of assessment. Both Biggs and Tang (2011) and Waterfield and West (2010) considered the convenience and cost of the traditional 'time bound' written examination. The literature aforementioned looked at the rhetoric around how alternative assessments could be costed to fit into the higher learning economy.

The authors in this study hypothesised the notion that inclusive and alternative forms of assessment achieved higher levels of student satisfaction. This paper argues that students were provided with increased opportunities to achieve their best overall grades due to the wide-ranging collection of assessments methods available.

HEFCE (2013) analysed the response of 304,000 final-year students responded to the latest NSS survey. This number of respondents represented a response rate of 68.6 per cent, the highest rate in the nine years that the NSS has been running and the survey shows that the area with the lowest satisfaction levels was assessment and feedback with 72% satisfaction. The area of assessment and feedback has consistently been identified as an area for improvement and arguably provides an opportunity for innovation and change (Boud, 2013)

Henry (2012) examined the phenomenon of assessments in UK universities and pointed out that more and more universities were using coursework, and non – traditional assessment methods in preference to written exams. The reliance on constant assessment was seen to be

strongest in former polytechnics and 'new universities'. Payne, (2012 ; cited in Henry, 2012) described how a University in the West Midlands had ceased to use traditional exams in humanities in response to evidence that such examinations did not provide the most accurate, meaningful, all-round measurement of student achievement. Barber (Cited in Shaw, 2013) said the traditional teaching and learning models were out dated. Smithers (2012) writing as a leading UK academic, took a traditional view and argued that a sole reliance on coursework could be having an impact on degree inflation. Smithers has primarily published extensively on school examination and test results and drew an analogy with some of the problems experienced with GCSEs and A Levels. In a critique of the use of alternative assessments methods he alluded to:

'coursework at university suffering from all the same weaknesses. There are also a number of opportunities to correct coursework before it is finally submitted, driving up marks'. (Smithers, 2012; cited in Henry, 2012)

Sabur (2013) wrote from the perspective of a third-year English and Classics student. Writing for the guardian she argued that exams suited students who were good at memorising and regurgitating, but traditional exams did not encourage creative and original responses. Clarke (2013) highlighted the number of students achieving first-class honours, rose to sixteen per cent in 2012, the biggest increase on record. Clarke (2013) took a critical stance and alluded to grade inflation, going on to argue that more than a sixth of students now graduate with high grades following a tripling in firsts awarded since the late-90s. Clarke (2013) linked this phenomenon to a reduction in the number of traditional exams that students sit in favour of coursework. Higher Education Statistics Agency (HESA, 2013) produced figures to show that there has also been a rise in the numbers of students gaining an upper-second. The latest figures show that two-thirds of students left university in 2012 with a first or 2.1. HESA (2013) figures also show an a significant increase in first class degrees with a 45% increase from 2008, when 41,150 students got a first, and up 136% from 2002, when 26,100 graduates received the highest degree grade. There may be an argument that a move away from the traditional form of assessment equates to grade inflation. Taken together the evidence does point to some significant changes in the number of students obtaining 'good degrees'. However the does not seem to be any conclusive empirical research that provides objective evidence to confirm this argument.

Returning to this study, the research questions for this paper asked 'what did the students think about the innovative use of alternative assessments on a Law Degree with a Foundation Year?' and 'did the use of these assessments contribute to retention and progression?' The next section deals with the methodology used and focuses on the responses of the students enrolled on the FY.

Method

One of the authors had previously carried out a survey in the form of a pen and paper questionnaire asked the respondents to consider a number of factors influencing their choice to enrol on a course with a Foundation Year. This study focuses on the response to one of the questions contained in the survey; the question about assessments. Although the original study covered a wide range of factors concerning the experiences of students on the FY, this paper selected one aspect of the survey as the focus for discussion. The decision to focus on assessment types was taken as this was considered to represent an area of innovation in HE, whereas other elements of the study could not be described as dealing with 'innovation' in the true sense of the word.

One of the original survey's key strengths was the high number of completed responses coupled with the fact that it was completed early on in the teaching block. The latter may give the advantage of eliciting responses early on in the academic lifecycle. This study wanted to capture the students' views at the beginning of their student experience while their experiences were still fresh in their minds and before they became fully embedded in HE.

The study commenced with a distribution of 63 questionnaires to each student on the award. The initial data collection took place towards the end of the first teaching block. The response rate was 96% (n=63). The questionnaire was designed to collect data on the status of each student such as age, gender, disability and ethnic group. The questionnaire used in this study was handed out in the lecture and collected in after completion before the students left the lecture theatre. The authors used this method of delivery and collection to facilitate a high return rate. This study was carried out in accordance with the BERA guidelines (2011) and was conducted ethically. The participants volunteered and were informed of the nature of the research. The respondents did not write their names on the questionnaires and this enabled the participants to remain completely anonymous. The authors did not consider this small scale study a risk to the safety of the learners who took part. The students were asked a number of questions however this paper focused on the question below and the students' responses. The Question was worded as follows:

Did it make a difference that any of the following forms of assessment are used compared to traditional exams? (tick all that apply)

This question originally formed part of the study looking in to the factors that motivated students to enrol. The responses demonstrated that this area received significantly more comments and feedback than any other area of the study. The authors felt that this factor deserved some analysis in its own right.

The questionnaire provided the group to with a number of assessment types that were used on the Foundation Year. The rationale for this was to try and establish whether these alternative forms of assessment had any influence on the students either as a motivation for enrolment or as a deterrent. The full range of choices available on the questionnaire is shown below.

Written examination, Reflective Diary, Oral Presentation, Online Discussion, Project, Assessed essay, Role Play, Group Project, Portfolio, Questionnaire, Dissertation, Poster Presentation, Class Participation, Practical Session, Self-assessment, Multiple Choice, Web-quest, Negotiated assessment, Problem-based learning, Attendance.

Findings and Discussion

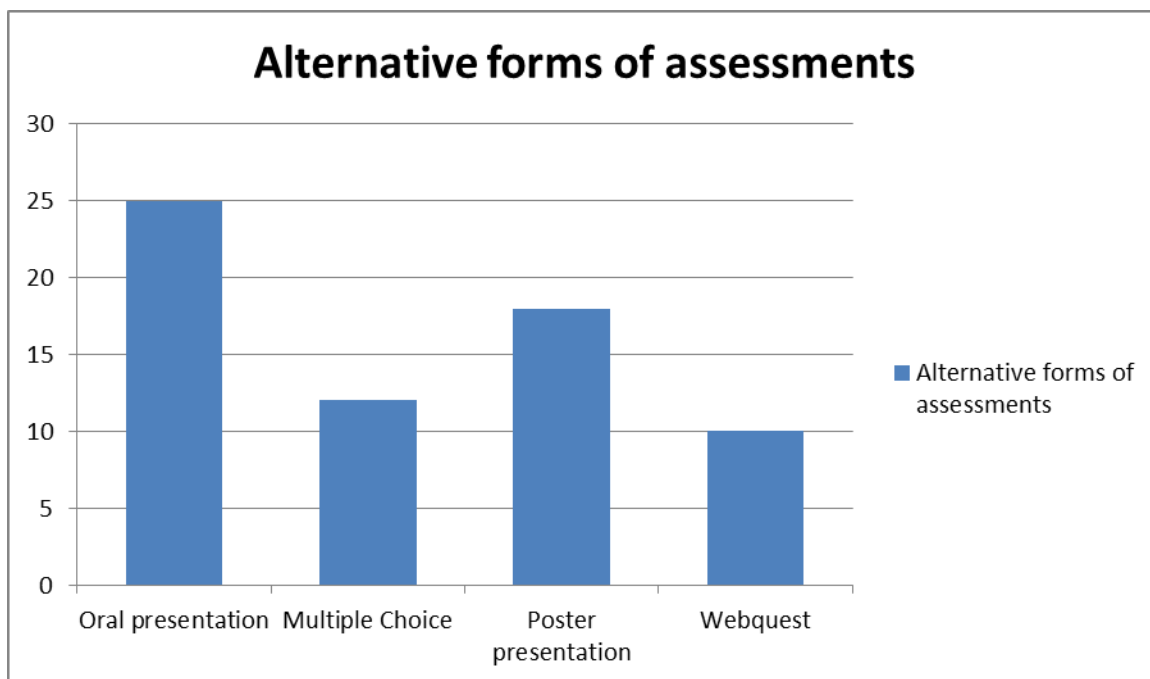


Figure 1. Responses to different forms of assessment

Figure 1 is a graph showing the main responses to the different forms of assessment highlighted in the questionnaire. A decision was taken not to include the choices that did not elicit any response from the respondents in order to present the significant responses clearly in the graph. The question then invited the respondent to answer 'Why'? The highest response was seen in the area of oral presentation. The study showed that 43.8% of students ticked this area with 31.5 % providing a written answer to the question 'Why'? 31.5% of students ticked the Poster presentation box, 21% ticked the multiple choice box and 17.5% ticked Web-quest.

- Enjoy the challenge of different types, once employed it isn't all going to be written exams. Practical ones help you prepare as well for the future.
- Familiar with oral presentation and poster presentation
- Presentations in general make me nervous
- Never done oral presentations before
- I think it is better
- Familiar with oral presentations
- More pressure is applied as you are not aware if you have presented correct.
- I do not like exams as they make me nervous and often tend to panic
- Presentations in general make me nervous
- Yes because it slowly eases us into the course
- It did make a difference, except the poster presentation which was my least favourite
- I don't test well
- I prefer all of the last different forms of assessment apart from my least favourite being the oral presentation
- I don't like examinations, don't do well
- I don't like written exams
- No difference
- Familiar with oral presentations
- It was varied and the oral presentation allowed me to grow confidence
- Because they are easier and gets things out the way quicker.

Table 1. The written responses to the question about assessments

Table 1 provides the detailed response of the students who took the opportunity to provide a written answer to the qualitative element of the question.

The population of interest for this study was all undergraduate students enrolled on the LLB (Hons) with a Foundation Year. The survey sample consisted of 57 respondents from a total group of 63 forming the cohort commonly referred to as the FY. The sample was evenly split in relation to gender with 28 males 49.1%, 27 Females 47.3% and 2 students who did not state their gender. The age of the students overwhelmingly were represented in the 18-24 category at 96.5%. Only two students in the FY were older than 24 and 12% of the students reported disabilities; however there was no opportunity in the questionnaire to explore this area further and in hindsight maybe this aspect should have been developed.

Firstly there it is important to point out that there are only a small number of English Universities that offer an LLB with a Law Foundation year. This study identified seven

Universities in England that offered a full time LLB with a Law Foundation year and two that offered the LLB with a generic skills based foundation year. It is necessary to highlight the difference between foundation degrees such as those discussed by Chipperfield (2012) and Winter and Dismore (2010). The latter dealt with foundation degrees in the sense of vocational work based degrees linked to industry and often involving day release from work to undertake the attendance at university. The LLB with Foundation Year is not to be confused with these work based degrees also referred to as foundation degrees. Teaching and supporting learning on the 'Foundation Year' used a variety of assessment methods. Students were assessed on themed presentation skills, role play, creativity in the form of a poster design and delivery, computer based multiple choice questions (MCQ's) and written assignments.

The study identified that the area of oral presentations elicited a number of responses from the students ranging from 'like to dislike' but the overall feeling seemed to emerge that the students preferred the different types of assessment in preference to the traditional exam scenario. Linking back to the literature, one could argue that the respondents fell in to two broad groups, those who felt that they may perform better in assessments that did not rely on the traditional 'memory test' time bound, written exam and those who expressed anxiousness about assessments generally. An examination of the written responses indicated the presence of a sub group of respondents who expressed a sense of nervousness over the oral presentation element of assessments. One could speculate that people who feel that they need to enrol on the Foundation Year rather than entering via the traditional route, may feel apprehensive about assessments overall; demonstrated by comments such as 'I don't like examinations, don't do well. . . presentations in general make me nervous' Efkides and Volet (2005).

Looking at the responses using a critical lens one could argue that the various types of assessment did provide the learners with the opportunity to succeed in some form but within a 'milieu' presented by Smithers' (2012) critique. The significantly high success and progression rate over the last three years could be an indication that a non-reliance on traditional exams is a key to enabling learners to achieve success by weaving through a very different maze of challenges. The experience of the authors mirrored the research of Waterfield and West (2010) who argued that alternative assessments resulted in achieved higher levels of student satisfaction and led to improvements in student marks and grades. This study's findings concurred with other literature such as Gibbs and Simpson, (2005) whose research indicated that students prefer coursework, regarding it as "fairer" than exams. There is evidence to suggest that coursework marks are a better indicator of the long-term learning of course content than exams

Conclusion

The paper focused on a theme the authors considered appropriate to produce a short paper that scrutinised one particular area of a larger study. The use of the different types of assessments was arguably innovative and original compared to the traditional assessments used for the LLB(Hons).

This paper's fundamental argument is based on the concept of providing new and innovative types of assessment that are relevant and reflect the changing style of teaching and learning in the 21st Century. There is little research done in the area of the 'access' year and the student experience. This short paper has provided a glimpse in to an area of HE that may be set to expand. Certainly with pressure from QAA and the NSS on HEIs to improve on the student experience, it may seem sensible to expand some of the practices currently used on the FY year to the traditional first, second and third years.

Taken together, some of the literature does point to some criticism of the use of alternative methods of assessment in HE. There is a clear indication that the number of 'good degrees' obtained by students has risen significantly. Commentators such as Henry (2012), Smithers (2012) and Carr (2013) make a strong argument for grade inflation. Conversely with public policy advocating widening access and the consideration of the work of leading academics such as Biggs (2011) and Boud (2013), it is clear that there must be a place for non-traditional assessments in a suite of teaching and learning in the 21st Century.

Contested notions of assessment proved to be an area that elicited a high number of responses and comments from the students and it is clear that assessment will continue to be a hotly debated issue in HE. It was clear from the discussion section that many students were uncomfortable with the traditional written exam style of assessment and the literature (Henry, 2012; Sabur, 2013) suggested that many universities in England and Wales had changed their assessments methods to continuing or alternative styles of assessment.

This study looked a 'niche' within the HE milieu; however the results were significant and provided topical area for examination. This small study has provided the basis from which one could expand on a number of further studies that could revolve around repeating the study with a new cohort or conducting a longitudinal study with former FY students as they encounter a greater set of experiences with traditional exams throughout their academic journey.

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“Widening Participation”? An analysis of a short University based programme

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Abstract

This short report outlines small scale research undertaken within the context of current Widening Participation (WP) practice at Staffordshire University. The focus of this work investigated the effectiveness of a specific approach designed to enable learner opportunities within Higher Education (HE). The data obtained allowed insight into the level of preparation for Undergraduate (UG) level study being provided within this type of programme. The findings of this study have directly informed aspects of current practice particularly in terms of developing problem solving skills.

Background

Current government changes to HE funding requires Universities to demonstrate approaches to WP through Strategic Assessment and Access Agreements (Department for Business Innovation and Skills, 2011). One definition of WP that has relevance to this research area is provided by HEFCE (2007) as meaning "learners with a potential to benefit from higher education who come from under represented communities" (Nelson and Wilkinson, 2010). Step Up to HE is a well established, short programme at Staffordshire University (SU) with recruitment from a diverse learner population. The focus of this provision is to build learner self belief, in the potential for UG study, through the development of a range of academic study skills and experiences. In promoting learner progression a significant indicator of course success is measured through retention rates at Level 4 (Yorke and Longden, 2008; Baseman, 1996 in Bowl, 2010). It was through consideration of this latter point that the direction of this research emerged.

Investigation aim

To analyse the effectiveness of the Step Up to HE Certificate programme in preparing learners for Level 4 study.

Literature Review

According to Bowl (2010) preparation for UG study is subject to interacting internal and external factors. This author also refers to the "safe space" provided by HE based preparation courses in particularly supporting transition through the development of self confidence, independence and "acculturation". This source however, was based on teacher viewpoints only and it is learner recognition of the "potential" to study at UG level that is at the heart of the Step Up to HE programme (Yorke and Longden, 2004; Nelson and Wilkinson, 2010; Hoare and Johnston, 2011). Existing literature also indicated that confidence alone is not a sufficient foundation to manage and/or problem solve throughout study (Henderson and Dweck, 1990; Hong et al., 1998 in Dweck, 2000). Bamber (2008) suggested that short study skills courses may be limited in supporting the deeper learning processes required in the preparation for HE study. This work also stated that within the non-traditional learner population "HE can seem like an alien environment". Step up to HE aims to promote rapid learning processes and these experiences can be anxiety provoking in an often unconfident population. Therefore, in attempting to move in the direction of independent learning there can be the potential to negatively impact upon the intricate processes involved at this initial stage of HE experience (Rogers, 2002).

Investigative approach

This small scale research was addressed within Post-positivist paradigms using interpretive approaches. Although recognition was given to the potential for the researcher to move into

existing theories, the process of developing grounded theory evolved through the interpretation of participant experiences into meanings (Knowles, 1996; Glaser and Strauss, 1976, Glaser, 1996, Strauss and Corbin, 1997 in Cohen et al., 2007). Research methods were qualitative using a semi-structured questionnaire (10 participants) and interview (2 participants). Purposive sampling was applied consisting of current level 4 and 5 learners who had directly accessed HE through Step up to HE (Drever, 2003; Blaxter et al., 2006).

Analysis

The results indicated that Step Up to HE enabled learners to experience some aspects of HE level study. The use of library resources, essay writing and presentation work were the most frequently reported experiences that provided effective preparation for higher levels of study. A significant theme identified in all responses were increases in learner self belief and/or confidence in the ability for HE study (Yorke and Longden, 2004; Nelson and Wilkinson, 2010; Hoare and Johnston, 2011). One participant reported that Step Up to HE had been effective preparation as it enabled "learning without being judged" (Interview 2). When considered in relation to existing literature the latter point raised potential areas for further research in this context (Bamber, 2008; Bowl, 2010). The results obtained also supported research which stated that in similar contexts preparation for HE may occur through a combination of developing knowledge, skills and self confidence (Bowl, 2010).

There are currently key gaps in this programme that may reduce the effectiveness of the overall preparation acquired and/or required at UG level. All participants reported that the programme did not fully prepare them for the independent learning and workload management involved within UG study. The findings do suggest that acquiring study based skills does offer some preparation but that the deeper learning required for more genuine transition had to be further considered (Henderson and Dweck, 1990; Hong et al., 1998 in Dweck, 2000; Bamber, 2008; Bowl, 2010)

Implications for practice

Although some specific HE experiences and skills are acquired, preparation for UG level study is limited due to the short duration of Step Up to HE. In the current format this programme may be providing practical study skills, rather than focusing on the development of the deeper processes required to become an independent learner (Bamber, 2008). The programme length is currently under development.

The inclusion of problem solving activities to increasingly build independent learning has now been introduced during first module content. The high levels of tutor support are also slowly decreased during such activities in order to limit the effects on learner anxiety levels (Rogers, 2002). Existing reflection activities have also been extended to further promote metacognition and identification of strategies for the development of independent learning (Hiemstra, 2001;

Boyd and Fales, 1983 in Mackeracher, 2002; Jacobson, nd; Selfe and Arbabi, 1986; Cowan, 1998b in Moon, 2006).

Conclusion

This small scale research considered the degree of preparation, being provided by the Step up to HE programme, for learners progressing onto Level 4 study. The interpretive methodology applied in this context enabled important data to emerge through an analysis of the learner experience. Step Up to HE does prepare learners for some aspects of UG study particularly in terms of enabling the development of practical study skills. However key gaps were also identified and the programme was limited in terms of enabling the independent, deeper learning required in HE. Although the increases in confidence levels reported did indicate that learners are enabled to recognise their potential for higher levels of study, the clear differences between preparation and transition had to be addressed. It is the latter that programmes of this nature must respond to accordingly if learners are to more effectively move into and through Level 4 study.

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A reflection upon the value of embracing the principles of learning communities as part of a response to pressure to reduce staff student ratios in post-1992 Higher Education Institutions whilst maintaining the quality of student work-based learning

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Abstract

This work reflects upon the value of embracing learning communities as part of a response to pressure to reduce staff student ratios in post-1992 Higher Education Institutions whilst maintaining the quality of the student learning experience during final year projects and MSc dissertations. It concludes that well engineered, implemented and managed communities can indeed enhance the student learning experience with reduced academic resource and also brings major additional benefits for the students and the institution.

Introduction

The author is employed in the School of Computing in a post 1992 Higher Education Institution (HEI), ranked 113th in the Complete University Guide (Complete University Guide, 2013) in April 2013 that has a staff-student ratio (SSR) of 20.3.

Although published work does not necessarily always support the anecdotal, local impression that SSRs have degraded significantly since the institution's time as a polytechnic and especially so during the previous Labour Government's tenure during which it was intended that one in three of all young people would benefit from having attended H E by the end of the twentieth century (Lawton, 1992)

This (albeit perceived) pressure to 'service' more students per member of staff has also resulted in pressure on staff to supervise more undergraduate student final year computing projects and more MSc computing dissertations per member of staff (Johnes, 2006). The traditional approach to project\dissertation supervision is for the supervisor to meet with an individual student on a regular (usually weekly) basis for 20 or 30 minutes, repeating much common content of the supervisory meeting with other individual students. Supervising more and more students, using this model, would lead inevitably to spending more and more time supervising students which would leave less and less time to spend on other duties.

A different supervisory model

Some years ago the author, realising that repeating common elements of a meeting several times a week with different project\dissertation students was not only tedious but unnecessary, created a 'group meeting' once per week to which all supervised project students were 'invited' (expected to attend), cake was provided and the following approach was adopted:

- a list of topics to be discussed each week was published
- generic documents pertaining to different aspects of the final year project were published on line
- all students were made aware that the meeting was to last a maximum of one hour, during which any project\dissertation issue(s) that they had personally were to be documented, aired and discussed
- all issues to be raised for discussion by each student were documented in advance (usually in a notebook reserved for this purpose only) and resolutions noted. Any issues unresolved in the meeting were to be resolved by the student (either independently, working with other students or working with the\ tutor) in a specified timescale

- a task breakdown and project plan for the entire 30 week project was created by each student for their own project very early in the process and updated frequently as more experience of the tasks was gained

To the author's surprise and delight, the one hour per week that it took for the meeting appeared more than adequate for the vast majority of the students (once they had come to know (and trust) each other). They formed themselves into a self-supporting group (or grouplets) that communicated independently of the author, often resolving issues and sharing published sources of common interest. Not only that, but there was a team spirit engendered that led to joint nights out and general enjoyment.

Sadly, no quantitative analysis of student attainment of this group of students compared to other, previous, 'non-group' students to ascertain whether the academic attainment of the group cohort was different to previous, non-group cohorts of project students.

Subsequent reading has identified that the author had unwittingly created a 'learning community' (Ludwig-Hardmann, 2003) in which "individuals from multiple perspectives willingly collaborate as a larger collective whole toward a shared goal or vision". The anecdotally observed benefits of the learning community arise not only for students and the tutor\author but also for the institution as described by Tinto (Tinto, 1993) and have evolved from similar benefits experienced in professional 'communities of practice' (Wenger, 1998 and Barab and Duffy (2000) cited in Jonassen and Duffy (1992)).

Extending the supervisory model

The author has used the experience gained from the unintentional creation of a successful learning community with a group of (relatively) homogeneous, 'traditional', full-time, computing learners and sought to transfer the benefits to more disparate groups of work-based and distance learners; a group of learners of increasing importance to the institution (Staffordshire University, 2013). These learners study one individualised university module at level 4, 5, 6 and 7 at a time, whilst working in organisations that have Work Based Learning partnerships with the Institution. Each student is allocated a nominated member of the institution's academic staff as 'supervisor' for each of the modules that they study.

The empirical experience gained from supervising 'traditional' students as a learning community led the author to adopt the following approach for WBL students:

- Ensuring that a preliminary face-to-face meeting with the student takes place in which the following are discussed\defined:
- The nature of WBL learning (and the independence of the learner) and the learners relationship with the academic supervisor

- Identification of other learners in the student's organisation that are on similar learning journeys and check that communication is possible between them
- Communication with supervisor (preferred means, frequency, contact details etc)
- Timescales and deliverables of module (milestones, definition of deliverables)
- Academic expectations of institution
- Defining the assessment process
- Ensuring that relevant, explanatory information is readily available to the learner in a suitable form
- Responding rapidly to contact from the learner by whatever method(s) suit(s) them best (as long as this also suits the tutor)

Initial (as yet formally unmeasured and unpublished) experience is that this approach is effective for both learner and tutor and is not prohibitively onerous in creating a positive and successful learning experience.

Conclusion

The author's experience of facilitating Learning Communities in order to supervise increasing numbers of 'traditional' students, which is simply expected by their employing institution, has generated approaches that are now being applied with Work Based Learning students.

Initial, informal feedback from students about their learning experience is positive.

The academic success of the application of these approaches is yet to be measured formally and quantitatively.

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Lecture Theatre Pantomime: A creative delivery approach for teaching undergraduates

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Abstract

Lecture theatre based teaching is common place pedagogic method in Higher Education especially when teaching large classes. Lecture theatre pantomime is an interactive and diverse teaching strategy that uses lecture theatres but aims to make sessions as interactive, diverse and enjoyable as small group tutorials. The Central Dogma of molecular biology was taught using a pantomime approach that included a 3D washing line and a handstand by the lecturer. Overall 90% of students found the pantomime delivery style enjoyable compared to more traditional non-pantomime lectures. Students in the pantomime lecture showed a statistically significant ($p = 0.0009$) improvement in student exam performance compared to the previous year's cohort.

Rationale

It is recognised as a growing problem that as class sizes increase in Higher Education (HE) institutions there is an increasing reliance on large lecture theatre based teaching. This is acknowledged as being in direct conflict with the need to make taught sessions as interactive, dynamic and personal as possible. Lectures have been identified in a large number of studies as being an ineffective pedagogical tool for conceptual understanding (Knight & Wood, 2005) and no better than a wide range of methods (including private reading) even for the fundamentals such as transmission of information (Gibbs, 2013).

This conflict can be addressed by adopting creative or interactive approaches to teaching whilst using a wider range of pedagogic techniques and methodologies. Interactive approaches to lecturing can promote active learning, heighten attention and motivation and increase class satisfaction (Steinert & Snell, 1999). Creative approaches can have the additional benefit of increasing the motivation of students in the classroom. Creativity and interactivity can be especially beneficial for students with lower self-motivation levels and/ or who respond poorly to more traditional teaching techniques (Darlington, 2010). Creative approaches may take many forms in the lecture theatre environment but include the use of drama, role-play and pantomime.

Literature Review

Drama in the lecture theatre uses the activity of acting, where drama in partnership with students are used to facilitate learning. The use of drama to teach science in secondary schools is a well-established approach such as 'analogy role-play' in which students are asked to represent biological mechanisms, for example nerves cells to demonstrate the passage of impulse down multiple cells (compared to a single cell) and metal atoms to illustrate the vibrational effects of expansion due to heating (McSharry and Jones 2000) and the Grotthuss mechanism (Chemical Bonding verses conductivity of water). This involves the students acting as the molecules and lining up to represent either hydrogen or oxygen atoms. Furthermore, the interactions between the atoms 'arms and legs' are used to demonstrate the conductive principles (Sturm 2009).

Drama has been used extensively as a delivery form in Higher Education (HE) especially in medical education. Unalan *et al*, 2009 used theatrical presentations performed by medical students in a lecture about headaches to make students more active learners. Student volunteers dramatised headache scenarios as part of a session on taking patient medical histories and clinical findings in diagnosing headaches. The authors found that 90% (n=43) of participating students found that the theatrical performance made it easier to understand the topic and that a higher percentage of the correct answers to the headache question in the final exam were produced by students who participated in the theatrical headache lecture.

Shapiro and Hunt, 2003 introduced theatrical performances but used professional actors and patients to deliver dramatised patient perspectives on HIV/AIDS and Ovarian Cancer. The performances were one hour one-person shows composed of drama and song followed by professional discussion and critique by doctors. The authors found that audience response were universally positive for the performances and increased their understanding of the symptoms; empathising with a person suffering from the condition. There was also strong support for similar teaching approaches to be used in future sessions.

Alarek and Baerheim, (2005) used a more interactive theatrical performance in which an actress performed the role of a patient and staged a consultation monitored by a teacher. At a critical point the consultation was stopped and the students individually / in groups tried out their own approaches to the consultation on the subject. The authors concluded that the dramatisation advanced the students' abilities in mastering difficult conversations. Pantomime is theatrical entertainment of a story (normally a fairy tale) that often includes comedy; it differs from drama in the lecture room as it encompasses the whole session rather than (typically) being a component of the session. In this paper, pantomime is used as the delivery mechanism in a year two molecular biology lecture. Timpson & Burgoyne (2002) demonstrate how an educator can use performance related techniques to engage students. Pantomime is used as a framework (script) for the whole session to engage and enthuse the student learners thus increasing the transmission of subject matter. It is therefore hypothesised that students perform better in the end of module exam on central dogma questions when the material is delivered using the pantomime format.

Methods and Materials

A session in a second year undergraduate genetics module on the topic of the 'central dogma' specifically prokaryotic and eukaryotic transcription, and translation was delivered using an integrated 'pantomime' approach. There were 144 students enrolled on the module from three different programmes of study: Biology, Zoology and Forensic Science. The session was three hours in duration and was composed of two times one hour fifteen minute teaching slots with a 30 minute break. The session was delivered using a pantomime approach composed of a number of different elements:

1. *Traditional PowerPoint* – PowerPoint slides containing key points and illustrative diagrams were used throughout the session. These were infrequently related to in the actual session. Instead they were used as an 'aide memoir' for the presenter and to allow students to organise their learning, during and post session.
2. *Videos / Animations* – A selection of animations from the core text associated with this module and videos from www.youtube.com were used as part of the session. These were principally used to summarise sections of the 'pantomime' and to illustrate processes not possible using the 3D display.

3. *Visualiser* – A Samsung visualiser was used to demonstrate some aspects of the central dogma. Two specific examples are the relationship between template DNA, non-template DNA and RNA and Rho independent termination which were demonstrated 'live' on the visualiser using pipe cleaners, paper and a metal ring (see figure 1)

4.

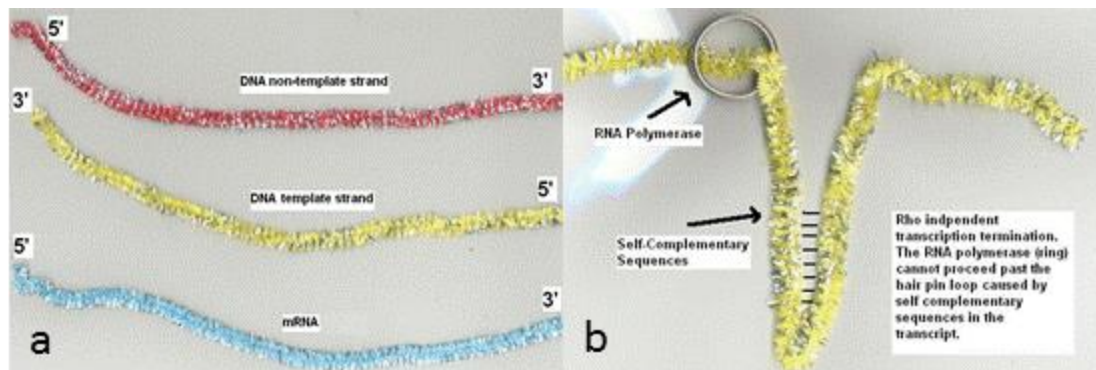


Figure 1: example of using the visualiser in the session a) pipe cleaners used to illustrate the difference between types and orientations of nucleic acids b) pipe cleaner and a metal ring to illustrate Rho independent transcription termination. Labels added after the lecture and made available to students.

5. *3D Display* – The main focal point of the lecture was a 3D display using a washing line tied across the lecture theatre. Throughout the lecture various elements were attached to the line (template DNA) using clothes pegs. Proteins, promoter sequences and transcription factors were represented on paper plates and laminated sheets. A series of blank plates were taken into the session to allow response to student questions.

6. *Lecturer Interaction* – To illustrate some concepts the lecturer adopted a more interactive approach. For example to demonstrate the 5' to 3' orientation on deoxyribose in template and non-template strands of DNA the lecturer performed a handstand (with assistance) in the class. The lecturer also donned a builder's hat and climbed on the washing line to demonstrate / become an enzyme in the transcription process (see figure 2).



Figure 2: Selected elements of the session a) 3D washing line representing DNA molecule with various factors and proteins attached via clothes pegs b) lecturer demonstrating orientation of deoxyribose in DNA strands by performing a handstand.

7. *Humour* – Where possible humour was used in all other elements to keep the lecture entertaining and enjoyable. Two specific examples are representing the Rho termination Protein by showing a picture of University of Derby lecturer, Graham Rowe and illustrating terminator sequences using a picture of Arnold Schwarzenegger as The Terminator.

The session was evaluated using a mixed method approach; a post session ethically approved questionnaire asked the students to self-evaluate (quantitative) six statements on a likert scale. The statements (full details in figure one legend) captured the students self-evaluation of their understanding of the central dogma concept (prior to and post session). Also, captured students' enjoyment of both the central dogma and the pantomime delivery style. The questionnaire also included one optional open text (qualitative) question. Invitation to complete the questionnaire was delivered once via the University's Virtual Learning Environment (VLE).

This lecture is part of a module that is assessed by an end of unit two hour unseen examination. All students are required to complete a question related to the material covered in this lecture. End of examination scores for this year were captured and compared with scores from the previous academic year (similar content and question but different delivery style).

Results

Of the 144 students on the module, 44 students (32%) responded to the request to complete the questionnaire. Students were asked (S1) if they enjoyed studying the 'central dogma' material that had been previously been delivered to them as part of their level four (stage one) studies. Half the students who responded to the questionnaire (58%) stated that they 'strongly agreed' or 'agreed' with the statement (see figure 3). The same question (S2) was asked to students regarding enjoyment of the level five (stage two) 'pantomime session' and revealed that all students at least 'agree' with the question about enjoyment and that 66% 'strongly agree'. When asked about the delivery style of the session (as opposed to the content) 87% strongly agreed with the statement about enjoyment (S3). Almost all students agreed that their knowledge of the subject matter had increased during the session; 43% of students strongly agreed and 47% agreed that they now understood the material better (S4).

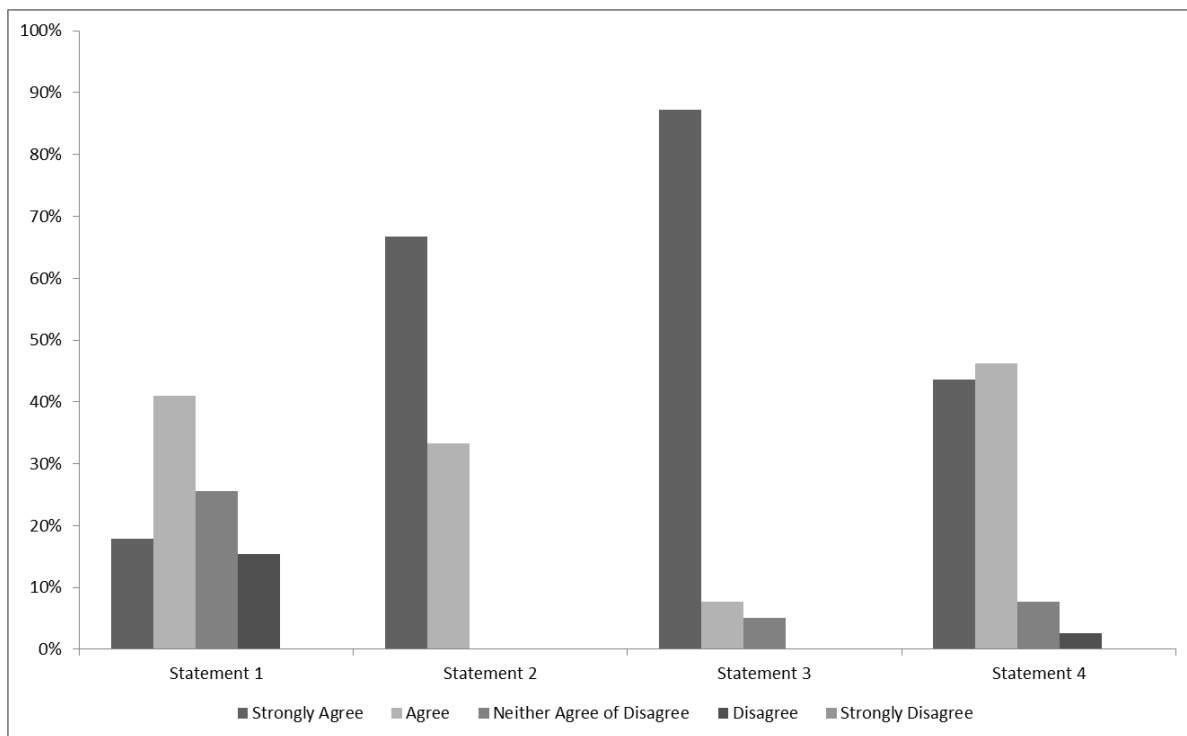


Figure 3: Student responses to four post-lecture questions on the central dogma delivered using the 'lecture theatre pantomime approach'. Students were asked to state their agreement with the following statements using a scale from strongly disagree to strongly agree (see legend above). Statements 1 'I enjoyed studying the central dogma in the first year of my degree' 2. 'I enjoyed yesterday's lecture 'the central dogma revisited' 3. 'I enjoyed the delivery style of yesterday's lecture the central dogma revisited' 4. 'I feel I understand the central dogma better after yesterday's lecture.

To better understand what aspects of the lecture delivery style students specifically enjoyed, they were asked to rate how enjoyable they found various aspects of the session on a scale from 'very enjoyable' to 'hated' (S5) (see figure 4). The majority of students rated many of the novel approaches in the lecture as very enjoyable including: lecturer interaction (82%), humour (84%), the 3D washing line display (71%) and the use of the visualizer (60%). The two other approaches were rated as enjoyable by the majority of students namely, PowerPoints (62%) and videos (59%). In total, 28% of student either had no opinion or did not like the PowerPoints when considered in isolation.

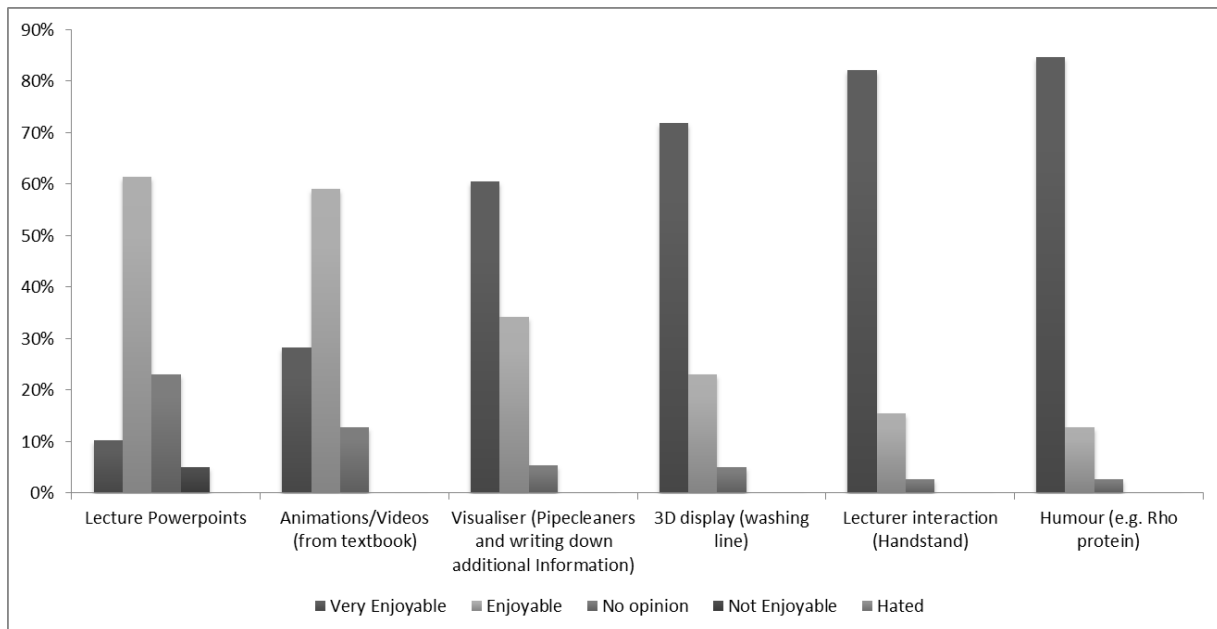


Figure 4: Students response to statement 'for each of the following (those listed above) delivery modes in yesterday's lecturer please tick the box that best describes your enjoyment'

Students were asked to rate on scale from 'very helpful' to 'no help at all' how they found the individual approaches used in the lecture for aiding their understanding of the subject matter (S5) (see figure five). The most useful element was the 3D washing line display; 84% of students rated it very helpful. Three other elements were found by the majority to be 'very helpful'; the visualizer (67%), Lecture Interaction (59%) and the humour (70%). Both the PowerPoints (62%) and the videos (56%) were rated as 'helpful' by the majority of students. No elements were found to be of 'no help at all', but all elements except humour and lecturer interaction were found to be 'not very helpful' to at least 2% of students.

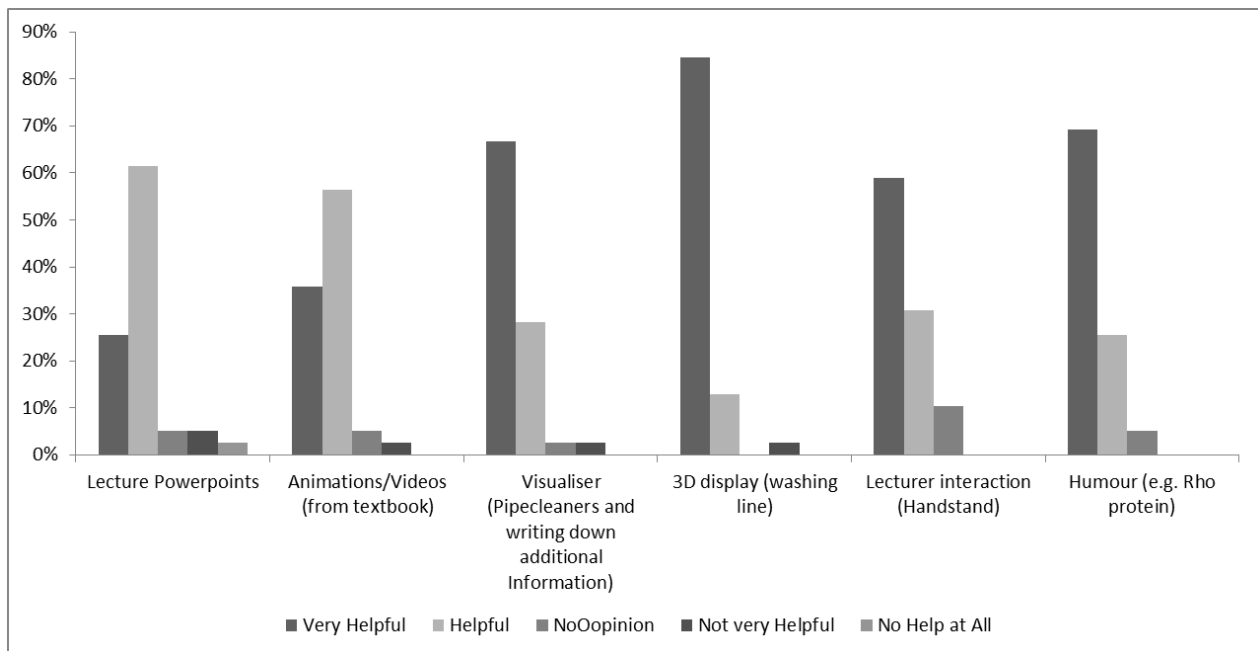


Figure 5: Students response to the statement 'For each of the following delivery modes in yesterday's lecturer please tick the box that best describes your opinion on its ability to help you understand the lecture material'

In addition to the opinion based questions students were asked to contribute any further comments in an open question. In total 23 students (50%) left an optional comment. All of the comment are positive in nature. A selection of the comments are listed below:

"It was enjoyable especially the washing line. Demonstrating in 3D was extremely useful and made the lecture more understandable. The humour makes the lecture more fun"

"Although I understood the central dogma from last year's teaching I felt this year's lecture was really helpful. The visual elements of it increased my understanding and made the topic memorable."

"The strong interaction and visual displays helped me the most, as it has given me something to link the information to, rather than block text"

"Each component on its own (with a few exceptions) was not very useful, however when combined as a whole, it was. This is to say that doing one of the delivery modes won't make a difference, several of them have to be done together to make an impact. Well done though, as I have never seen a lecturer try so hard to get their delivery right and so varied!"

One comment raises an interesting issue regarding this approach and examination revision

"I felt the lecture PowerPoints are going to be very difficult for me to study off, as there is little explanation and only diagrams. Everything else was absolutely fantastic."

Word Cloud analysis (see figure six) of the text based comments reveals that the most common words used by students were lecture (most frequent) followed by 'understanding' 'more' and 'enjoyable'. All the words used are positive adjectives and verbs, examples include helped, enthusiasm, better and learn. Only one of the approaches in the session, the washing line, appears in the word cloud analysis.

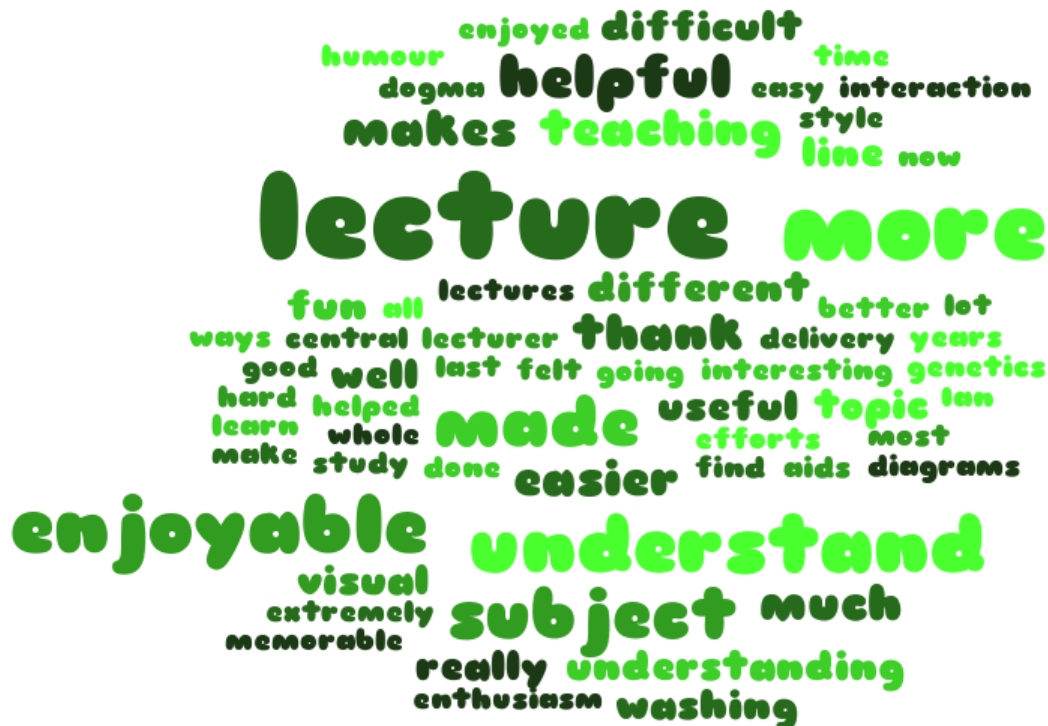


Figure 6: Word Cloud analysis (Frequency >1) of students' open text comments in response to the question 'Please type below any comments about the lecture and its delivery mechanism'

Students' were examined on the central dogma and other module topics in the end of unit examination. Cohort performance in the examination was captured. As part of the examination all students have to complete a question on the central dogma. The mean score for students on the central dogma question was 12.94 (SD 4.87), a grade C. The mean score for other questions on the examination was 10.41 (SD 4.14), a grade D. The hypothesis that students performed better on the central dogma question was statistically significant when tested by a two-way unpaired student t-test ($p = 0.000001$). To compare the lecture theatre pantomime approach, a comparison was made with the exam question scores from the previous year's students; a comparable question asked in the same module (taught by a more traditional approach) was used for comparison. The mean score for the central dogma question was 11.02 (SD 5.19) a grade D. The hypothesis that the pantomime approach improves academic performance was statistically significant when tested by a two-way unpaired student t-test ($p = 0.0009$).

Discussion

Lecture theatre pantomime was well received by students in the lecture theatre. When comparing students' enjoyment of the central dogma topic using the pantomime delivery with the previous year's non-pantomime delivery, there was a seven percent increase in the number of students who at least agreed with the statement related to enjoyment of the topic. When teaching using the pantomime approach all the students rated their enjoyment of the topic at least 'agree', compared to only 60% of students' judgements about the topic after the first year non-pantomime delivery. The questionnaire was delivered directly after the pantomime session; this was more than a year after the non-pantomime delivery, it could be that response would have been more positive had the survey been taken directly after the class when the material and delivery style were fresh in the students' minds.

There was a very high response to the students' enjoyment of the session's delivery style (90% strongly agree) which is comparable to the levels reported by Unalan *et al*, 2009 in a drama teaching students the clinical diagnosis of headaches. The enjoyment rise could be a reflection to the novelty of the delivery mechanism rather than a real appreciation for the way the session was taught. It could be argued that statements one to four were leading in their construction; in order to fully evaluate delivery in a future study, statements would be rewritten e.g. statement one as '*I found the lecture central dogma revisited' very enjoyable, enjoyable, neither, un-enjoyable, very un-enjoyable'* Pantomime type delivery if used more frequently in the lecture theatre may still be enjoyable, but possibly would not show such a large impact on student learning and engagement. In fact it may have no or a negative impact if used too frequently or executed poorly.

The response rate for the questionnaire was good considering it was delivered via the VLE. There were a large number of students who chose not to complete the survey, It could be that these students found the session un-engaging and uninteresting. Therefore the percentage of responders are not reflective of the whole cohort's views. The questionnaire was completed anonymously to encourage honest answers; therefore it is not possible to see how students who responded to the questionnaire performed in end of unit examinations. It would be interesting to see if the students who responded well to this type of delivery and improved their examination performance more than the cohort as a whole.

Nearly all students at least agree that the session improved their understanding of the central dogma. However, students could be over self-evaluating their own skills and knowledge thus such measures should be treated with caution. The students' opinion of understanding in part corroborated by students' end of examination performance. Students scored higher on the central dogma question compared to other questions in the end of module exam and higher than a similar question completed by previous cohort (not taught using pantomime). Increased exam performance is a positive finding, however it must be treated with caution as the central

dogma material is the first topic in the module (allowing a greater time to revise) and other questions in the examination are more technique based rather than theory based. In addition, comparing two different cohort examination scores is full of variables such as cohort academic ability.

All aspects of the pantomime were found both enjoyable and helpful for learning. Interestingly, PowerPoints were found as at least enjoyable by 70% and at least helpful by 85% of respondents. PowerPoints were not a central part of the session; however they did provide a structural framework for the pantomime and could potentially be used for student note-taking and revision. It could be that students are used to PowerPoint delivery and have adapted their learning style to cope with this delivery mechanism. These PowerPoints did contain diagrams, images and animation, which could have impacted on the students' perception (Gibbs, 2013).

The main elements of the pantomime (3D display, humour and lecturer interaction) were judged to be both enjoyable and helpful to learning. All of the pantomime elements (except the 3D display) were judged to be less helpful than they were enjoyable. This is to be expected as aspects such as the humour are included to increase students' enjoyment, motivation and interest in the subject matter. Student comments were largely positive, while it was interesting that some student responses describe how the whole 'pantomime' was enjoyable and helpful but that individual elements on their own would add little value. The comments about individual elements support Darlington's (2010) comments that making certain the drama it is a central part of the lesson and not just an 'add-on' is vital and failure to do so can lead to the session failing. In contrast to McSharry and Jones (2000) and Sturm's (2009) work, it is difficult in a large group lecture theatre environment to make students part of the 'drama' because of the space and time considerations. In this session small interactive elements such as 'pinning items on the washing line' kept students alert and involved them in the presentation.

The pantomime session was viewed as enjoyable by the students, but found equally enjoyable by the lecturer. The session taxed academic creativity and led to immense satisfaction in the students' responses to the lecture. Pantomime was successfully used to deliver this complex topic because the 'washing line' creates a simple but effective analogy which is useful throughout the whole lecture, this common theme may not be so easy to replicate in other topics. Pantomime makes the lecture a 'total experience' a lecture that is unforgettable; not its details, but the performance that helps to validate their academic experience and learning (Frudei, 2013).

Pantomime is not a delivery mechanism that would suit all lecturers. It requires a large investment of time to plan and set up (compared to a standard PowerPoint lecture). Furthermore, requires a high level of self-confidence to deliver. Pantomime can be successfully used to help students enjoy their learning and act to improve academic performance.

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The Innovative Use of Screencasts in Higher Education

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Abstract

This short reflective paper describes the innovative use of the screencasting technique in contemporary Higher Education. The main focus of the work is initially on the use of screencasts in mainstream teaching and student support where examples of screencast usage are demonstrated and evaluated. Later in the paper attention turns to the use of screencasts for staff development or information sharing. Again, examples are provided and briefly analysed. Finally, the author outlines some further opportunities for screencast use and closes with a brief outline of next steps.

Introduction

Ruffini (2012) describes screencasts as “a digital video and audio recording of what occurs on a presenter’s computer screen, which can be used to create sophisticated, information-rich multimedia presentations” (page 1).

Since their inception in 2005, screencasts have become widely used in Higher Education (HE). The scope of their usage has increased to include staff development as well as mainstream teaching activity. In fact, it is reported that screencasting now has ‘multiple’ functions as described by the University of Vermont:

“Screencasting is used in multiple ways in education, for instance, to provide an in-depth explanation of a complex application, to demonstrate mathematical equations, to review part of a lecture that students might benefit from revisiting, or to create a full length slide presentation accompanied by audio narration”. (Pg.1)

In essence, screencasts have become a significant part of HE practice and this short reflective paper will describe contemporary screencast use in a number of contexts ranging from mainstream teaching to student support and more general staff development activities.

Screencasting in Mainstream HE Teaching and Student Support

Screencasting for mainstream teaching and student support ranges from short ‘bite sized learning chunks’ aimed at reinforcing a concept already taught, to full lecture capture using one of the more sophisticated tools such as the ‘Panupto Recorder’ software. This paper is largely focused on the former, though full lecture capture is briefly mentioned in parts of the discussion.

For bite sized learning chunks ‘[Screencast-O-Matic](#)’, a free online tool, has won favour with many practitioners due to its simplicity and its excellent hosting facilities. Despite the inherent dangers of using free online tools and software, which can in the worst case scenario, disappear without warning, contemporary practitioners seem happy to take that risk. As well as teaching staff, practitioners from Library Services, The Career Centre and Student Wellbeing all use Screencast-O-Matic to disseminate information to staff and students, often in short two minute clips: “The editing features are pretty easy to use and let me zoom in on search screens, for example. I’ve been making all of [our library videos](#) with it” (Jess, library cloud, 2010)

Bite sized learning chunks for mainstream teaching have become hugely popular particularly in mathematics and sciences where students may have easy access to a range of examples and revision materials that they may watch at their leisure with the added advantage of repeat

viewing and pausing. These are often quite crude and unpolished from a media perspective but serve a very useful purpose in the process of teaching and learning. The unsophisticated nature of much screencast activity has become a feature that students have come to accept. Tutors and other teaching staff are not expected to be expert media producers and the unskilled nature of many productions has become a predictable feature that is now seen as a 'quirky' part of the genre. [To view a typical example click here.](#)

Despite the obvious advantages of screencasting in mathematics and the sciences, practitioners in other subject disciplines have also embraced the screencast method and use it extensively in their everyday practice. Colleagues in schools and faculties at the University of Derby routinely use the Panopto tool for lecture capture and report many positive comments from students who have been unable to attend the face-to-face lecture or may simply be seeking clarification or reinforcement of a concept or idea. Search screens make it simple for learners to seek out appropriate parts of the lecture that they wish to view, thus avoiding the need for time consuming search techniques.

In terms of student support, Stansfield and Freake (2009) report how they used screencasts to 'build confidence' for Open University Physics students prior to a formal examination. A subsequent survey revealed that 82% of students found them "very helpful" while 18% found them "helpful" (pages unnumbered). Furthermore, 85% of respondents stated that they would recommend to future students that they view the exam screencasts; and 94% suggested that they would like similar screencasts on other modules. A glowing endorsement of screencast use in the context described.

There is little doubt that screencasting offers much in contemporary HE teaching and student support. It is particularly useful where step-by-step processes are being explained and students can watch, pause and assimilate as they progress through the production. This isn't to say they fulfil all our teaching needs, of course, lack of interactivity and the somewhat behaviourist nature of the learning that takes place may be considered a weakness. Even so, screencasts satisfy an educational need in particular circumstances and within certain bounds. Moreover, screencasting has many other applications ranging from full lecture capture to use in student support activities. In effect, screencasting represents an affordable and successful learning tool the full potential of which is yet to be realised.

Screencasting for Staff Development

Screencasting for staff development or simply the dissemination of useful information has become common in UK institutions. As staff time has been consumed in new and diverse ways the impact on traditional face-to-face staff development sessions has been tangible. It is a fact that staff development in the modern university is now all too often confined to a rushed lunchtime delivery or condensed into a full day of activities at the beginning or end of a

semester. Exceptions to this are Post Graduate Certificates or similar qualifications for new teaching staff which are delivered in a variety of ways.

Screencasts offer a pragmatic way forward where staff in different areas of an institution need the same information in a timely and convenient fashion. Take a recent example from the University of Derby where a change in institutional policy determined that academic staff who had traditionally marked work using an alpha scale (A – E), were now required to use percentage marking as an alternative. This change also involved some additional work on updating level descriptors and marking criteria. Screencasting offered the most efficient and effective means of delivering the information required to the largest number of staff possible in the least time feasible. Staff could then watch at their leisure, in their offices or elsewhere and at a time to suit them. As noted by McGovern (2010) this represents an important feature of the screencast tool:

“Students should be able to learn when it suits them, in a location of their choosing, and more importantly, at a pace that suits their level of absorption or cognitive action” (page 1)

A screencast was produced for this purpose and e-mailed out to all teaching staff. [Click here to view](#). Though follow up work was required with some staff teams, the screencast was largely well received and elicited many positive comments during follow-up interviews. A key benefit was that all staff received exactly the same information and this could be viewed several times during the discussions that ensued among module teams. Furthermore, the screencast was sent to UK and international partner institutions thus providing widespread dissemination that was inclusive of all teaching staff.

A further example of screencast use for staff development originates from the use of a short production designed to inform staff about possible routes to obtain a Higher Education Academy fellowship. [Click here to view](#). Traditionally this type of information would have been delivered in different areas of the institution in the form of multiple workshops across schools and faculties. Again, the screencast approach made possible widespread dissemination including the university’s UK partners. Consistency of information, timeliness and the inherent benefit of repeat viewing were reported as advantages by respondents. The ability to pause and review content was a feature that again drew positive comments from staff who remarked specifically about the potential for discussion and clarification of pertinent points as the screencast progressed. This is a point picked up by Ruffini (2012) who states:

“The ability to pause or review content also gives students the option to move at their own pace, which is not always feasible in the classroom” (page 2).

It is clear, therefore, that screencasts have much to offer in the context of staff development. Despite the rudimentary nature of many productions made for staff development purposes, the information that they contain and the convenience afforded during dissemination and viewing more than offset concerns about quality. It seems likely we shall see much short-term growth in screencast usage for staff development as again this is an area that is yet to be fully exploited.

Conclusion and Next Steps

The scope for screencast use in Higher Education is immense. This short paper has focused on two main areas of usage, mainstream teaching including student support and staff development. These two areas demonstrate some key applications of screencasting though it should be recognised also that the potential for screencast use is far broader. It is acknowledged that screencasts have certain shortcomings and lack of interactivity along with a somewhat mechanistic approach to learning are widely cited limitations. Even so, screencasts offer much where learning may be broken down into 'bite sized chunks' and; they are a useful dissemination tool wherever information needs to be distributed widely and where standardisation of information is an essential feature. There is evidence of screencasts being used for advertising courses and modules, disseminating assessment briefs, circulating generic feedback following a session or an event or even sending out essential information relating to a change in policy or practice.

As a next step, Higher Education managers and staff developers should ensure that all staff have access to screencasting provision and this should be supplemented by staff training and support wherever necessary. Screencasting has enormous potential to enhance the student experience and increase the efficiency and effectiveness of information sharing, it is thus an important opportunity that should be nurtured and embraced by all those in a position to do so.

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Using audio feedback for summative purposes

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Abstract

Recent research suggests that assessment feedback in higher education is a problematic area, while audio technology may offer the potential to enhance student learning. This paper reports on a project which was developed to explore the implications of using audio feedback for summative purposes with participants on a work-based learning course at Staffordshire University during 2009. A combination of formative and summative evaluation was conducted; generally the response was positive and aligned to the findings of other researchers, with some significant issues arising in relation to the practicalities involved in producing and accessing the feedback, and the emotional response provoked. Recommendations include further evaluation, with some modifications to meet the needs identified.

Key Words: Audio feedback, Work-based learning, Student learning, Feedforward

Introduction and background

This research project aimed to provide enhanced feedback to promote participants' learning, while making more efficient use of tutors' time assessing participants' work. Distinctive features of the research included the focus on summative assessment, the emotional response to feedback, and the nature of the participants. The focus on work-based, mature learners differentiates this study from previous research, which has tended to focus mainly on "conventional" learners.

The research participants were all engaged in the Postgraduate Certificate in Higher and Professional Education (PGCHPE) at Staffordshire University. The aim of the PGCHPE is to develop participants' capacity to critically evaluate their own approach to supporting student learning in the light of theoretical and research based evidence. The course is aimed at teaching and facilitation of learning staff, most of whom are employed at the University, although some are external. It consists of four modules, and this research focuses on the assessment feedback for the first module, "Supporting Learning". The cohort is highly diverse in terms of learning styles, approaches to learning, confidence in using technology, study skills, and, potentially, disabilities such as dyslexia. Conflicting demands originating from professional and personal roles are likely to impact on participants.

The tutors who engaged in the research are curriculum development advisers in the Staffordshire University Centre for Professional Development. The research was an opportunity for tutors to not only teach, but also model, inclusive practice; and for participants to contribute to research into the impact of an approach which purports to promote learning more effectively than traditional methods.

Literature review

An introduction to the contemporary context of assessment feedback in higher education is the starting point for this review, leading to an examination of the potential for audio feedback to contribute to the enhancement of student learning and inclusive practice.

The "ripples on a pond" model of learning processes (Race, 2001a) highlights feedback as one of the main factors underpinning successful learning. Furthermore, Race (2001b) highlights its essential place in this model, based on his research. The importance of feedback is further elaborated by Handley et al (2007, p.1), who outline its central role in lifelong development, and in formal education specifically. Taras (2002) emphasises the potential of feedback to consolidate learning, deepen understanding and realign concepts (p. 504). In terms of what constitutes effective feedback, it is suggested that generic, rather than specific, comments have

greater power to stimulate learning (Knight and Yorke, 2003, p.33), and this is corroborated by more recent research (e.g. Carless, 2006, p.225). Nicol and Macfarlane-Dick (2006, p.203) propose principles of good feedback practice, which include: clarifying what constitutes good performance; facilitating the development of self-assessment; encouraging positive motivation and self-esteem; providing opportunities to close the gap between current and desired performance; and delivering high quality feedback information. Higgins et al (2002, p.62) suggest similar principles, which also focus on the importance of timeliness, explanation of misconceptions, fostering higher order critical skills, and use of language which is meaningful to students.

Despite the recognition of the central role of assessment feedback and guidance on effective practice in this regard, current research suggests that there is a mismatch between the principles of feedback to promote learning and practice in HE. The National Student Survey (HEFCE, 2009) seems to indicate that assessment feedback is problematic in terms of student satisfaction. The lowest scoring areas pertain to level of detail, promptness, and the extent to which feedback provided clarification on areas which were not understood. This is corroborated by the Quality Assurance Agency (2006, 40-43); institutional audits indicated some good practice in this respect, but also highlighted less effective practices, for example variability in the quality, timeliness and consistency of feedback given. Other studies question the impact, for example Weaver (2006) suggests that students recognise the value of feedback in improving their learning, but feel that is not as effective as it could be (p.390). Glover and Brown's research (2006) indicates that feedback lacks linkage to future work or assessment tasks (p.7).

Hence assessment feedback has been identified as an essential component for promoting student learning, and current mechanisms to provide it appear to lack effectiveness. In the light of this, it is relevant to explore alternative approaches which may increase the impact on student learning.

Race (2001b) suggests a variety of mechanisms for assessment feedback, outlines their advantages and limitations, and "scores" them against a matrix for comparing feedback methods in terms of learning "pay off" (for students) and efficiency (for lecturers). According to Race (2008), verbal feedback "scores" more highly than written, and it is suggested that this could possibly be attributed to the enhanced depth and detail. Goodyear (2001) refers to the "narrow bandwidth" of text based communication, which reduces the potential to make judgements about the meanings of words used (p.18).

In this context, it was decided to explore the potential of recorded audio as a medium to increase the efficiency and effectiveness of summative assessment feedback from a participant and tutor perspective.

As early as 1977, Moore suggested the potentially positive impact of recorded audio feedback. A variety of approaches are apparent in more current literature, including its use: for formative purposes (Merry and Orsmond, 2008); as a precursor to face-to-face support in dissertation preparation (Hill, 2008); and for summative purposes (Micklewright, 2008; Roberts, 2008; Ribchester et al, 2008; France and Wheeler, 2007). A number of advantages emerge from these studies. Enhanced quality is a common theme; for example, a content analysis of audio compared with written feedback (Merry and Orsmond, 2008) suggested that the former included a greater richness of detail, guidance for academic and professional enhancement, and messages to engage students in thinking. This is corroborated by Rotherham (2008a); it was indicated that audio feedback was more likely to include examples to illustrate points made, to suggest improvements, and to be more personal and accessible (p.4).

Students' views on recorded audio feedback seemed to substantiate these perceptions, although, as noted by Rotherham (2008a, p.3), it is possible that the positive response may be associated with novelty value. Students indicated that, compared to written guidance, audio feedback was clearer (Roberts, 2008, p.4; Rotherham, 2008a, p.1) and suggested strategies to solve problems rather than just stating the problems (Merry and Orsmond, 2008, p.4). It is implied that there was a greater feedforward potential; students stated that they engaged more deeply with the feedback (Ribchester et al, 2008, p. 5-6; France and Wheeler, 2007, p.10) and suggested that they would use it again in preparing for similar assignments (Merry and Orsmond, 2008, p.5). The positive response cannot be simply attributed to the increase in quantity; tone of voice, empathy and interest seem to be important for highlighting which parts of the feedback were more important, and for enhancing understanding (Merry and Orsmond, 2008, p.4; Ribchester et al, 2008, p.5; France and Wheeler, 2007, p.10; Northcliffe and Middleton, 2008). Furthermore, students emphasised the increased level of depth, detail and personalisation provided (Merry and Orsmond, 2008; Ribchester et al, 2008, p.4; Micklewright, 2008; Roberts, 2008, p.3-4). Building on the personalisation issue, students felt that the audio feedback demonstrated that the lecturer had seriously considered their work (Rotherham, 2008a, p.3). Other advantages expressed by students include increased accessibility (Micklewright, 2008), for example capacity to listen to the feedback within and away from the University setting (Hill, 2008; Ribchester et al, 2008, p.3) and while engaging in other activities, such as travelling (Merry and Orsmond, 2008). Overall the positive elements of audio feedback which were identified can be connected to the suggested principles of good practice in assessment feedback listed above, in particular the increased quality of the feedback information and strategies to close the gap between desired and actual performance.

In terms of inclusion, it is proposed that contemporary students may be less comfortable in processing written information, and alternative forms of feedback may be more effective (Merry and Orsmond, 2008, p.9). Audio commentary may be more understandable to this group because they are more accustomed to accessing information through sound via multimedia technology, such as mobile phones (Merry and Orsmond, 2007, p. 102-3). Furthermore, it is

postulated that, in the context of widening participation, this approach will augment the skills and confidence of students (Rotherham, 2008a, p.4). Moreover, in relation to individual student differences, Fleming and Baume (2006, p.4) suggest four modal preferences for learning; aural, visual, read/write and kinaesthetic. Providing assessment feedback through audio means could promote the learning of students whose modal preferences are primarily aural, and also those whose preferences are primarily read/write, if they are asked to look at their assignment at the same time as listening. In addition, it is anticipated that this form of feedback may be more accessible to students with diverse needs, and this is indeed indicated by Rotherham (2008a); his research sample included a dyslexic student, who stated that listening to the feedback enhanced the accessibility; and some students whose first language is not English, who appreciated the opportunity to gain practice with their listening skills. In the context of inclusive assessment (Waterfield and West, 2008), there is the potential to offer all students the opportunity not only to select their *assessment* method, but also to select the *feedback* method which aligns to their individual differences, without the need for categorisation or negative labelling (p.10).

From a practical perspective, producing audio feedback could make more efficient use of tutor's time, as more detailed guidance and examples of how to improve the work could be offered in a lesser timescale. Recent research suggests that 1 minute of audio is equal to six minutes of writing (Lunt & Curran, 2010, p.761). In one experiment, they found that a piece of written feedback took three minutes to type, four minutes to write by hand and forty seconds to record, proving, they suggest, that audio is significantly quicker to produce (p.762). Even so, this research is somewhat at odds with other studies through which it is suggested that provision of audio feedback requires the same time commitment as more traditional means (Merry and Orsmond, 2008, p.5; Micklewright, 2008). In fact some authors suggest that at first it may be more time consuming (Ribchester et al, 2008, p.7), and it has even been described as "labour intensive" (France and Wheeler, 2007, p.11). Nonetheless, this approach offers ease of archiving, copying and distribution (Merry and Orsmond, 2008, p.2) because of its electronic format.

Possible disadvantages of audio feedback include the loss of specific annotations on students' work, the physical separation of assignment and feedback, and the lack of an overall feedback sheet which clearly links marks awarded to grading criteria (Ribchester et al, 2008, p. 6-7). Moreover, students may need to access their original work in order to make sense of the guidance provided (Roberts, 2008, p.4) which further elucidates the implications of the separation of assignment from feedback. Some students highlighted the fact that it was quicker to skim read text than audio; however, since the aim is to promote meaningful engagement with feedback, this may in fact be an advantage (Rotherham, 2008a, p.3-4). Assessors' reservations include the need to learn how to use new equipment; finding a quiet place to do the recording; and becoming accustomed to hearing their own voices (ibid, p.4). Technical difficulties accessing the feedback can lead to student frustration (France and Wheeler, 2007,

p.10), and the files produced can be too large to email (Merry and Orsmond, 2007, p.102). However, feedback can be shared via the Virtual Learning Environment and situated within a students' individual portfolio (France and Wheeler, 2007, p.9), thus avoiding the need to send large files by email.

In summary, the literature indicates the central nature of assessment feedback for student learning, problems in meeting the expectations of student in this regard, and misalignment of student and tutor perceptions. Despite some limitations, audio feedback seems to offer the potential to address some of the issues raised and connect to principles for good practice in assessment feedback, in particular relating to closing the performance gap, providing greater personalisation and increased detail. Furthermore, it is suggested that, while this approach does not reduce time spent developing feedback, it does make more efficient use of tutors' time.

Practical considerations

Current practitioner research into the use of audio feedback provides valuable guidance on the integration of this method into the learning situation. A combination of summative individualised feedback and overview commentary on students' work as a whole is recommended (Ribchester et al, 2008; France and Wheeler, 2007). Such an approach was adapted to this project, in that overview commentary was provided on previous course participants' work as a preliminary stage of the audio feedback evaluation. Other practical guidance includes the need to limit the length of recordings to avoid the danger of providing too much feedback (Ribchester et al, 2008, p.5); the importance of increased sensitivity in providing critical feedback by means of this medium (ibid, p.6); and further technical and professional practice guidance (Rotherham, 2008a, p. 5-7; and Merry and Orsmond, 2008, p.9). One key area was the debate as to whether marks should be included within the audio feedback. It is proposed that their inclusion will provide initial motivation to engage with the audio feedback (ibid, p. 6; Micklewright, 2008), and this may also to some extent address the concerns regarding learning from summative assessment feedback, outlined earlier – particularly if marks are included near the end (Rotherham, 2008b, p.5). However, it has been suggested that disconnecting feedback from grades can facilitate students' engagement with feedback (Carless, 2006, p.230; Taras, 2002, p.507). Furthermore, from a pragmatic perspective, including marks within the commentary can pose issues in relation to moderation and second marking, so an alternative approach is to send marks separately after students have received the feedback (Rotherham, 2008a, p.6). Having considered the range of views on this topic, it was decided to include marks with the commentary as well as noting them separately.

The two tutors deployed different technology to contribute to a wider evaluation. One used a mobile device, recommended by Rotherham (2008b, p.5) while the other used Audacity software⁴.

⁴ Available from <http://audacity.sourceforge.net/>.

Research methods

Formative evaluation was conducted before and during the project in order to develop appropriate feedback mechanisms and systems, and compare the impact of text and audio media. Summative evaluation of the project had a primary focus on the impact on participants' response to the feedback including its feedforward potential, and a secondary focus on the implications for tutors.

Evaluation questions

The following evaluation research questions were devised:

- What is the impact of preparing audio files on tutor workload?
- To what extent does audio feedback contribute to "feedforward"?
- What is the impact of using the medium of audio on the messages conveyed by summative feedback?

Methodology

The relatively democratic and collaborative relationships between tutors and participants lent themselves to a participative approach to the research, hence an action research methodology was adopted. Tutors sought to promote scholarly activity and lead by example, as well as facilitating a co-generative approach to knowledge construction (Levin and Greenwood 2001, p. 105). While some action researchers (e.g. McNiff, 2002) would posit that action research is focused on the researcher's own practice, others (e.g. Bhattacharya et al, 2000) suggest that the findings of action research have the potential to be extended into generalisable enquiries. In terms of this notional continuum, the evaluation described here has tendencies towards the latter approach; as a number of studies have already been carried out in relation to audio feedback, it is to be hoped that the results of the evaluation may have the potential to contribute to the literature on this topic.

Data capture methods

Glenaffric (2008) highlights the need to engage in continuous formative evaluation to improve results, rather than solely use summative evaluation, focusing on "proving" results. It was decided to use a combination of analytical and empirical data for formative evaluation purposes. Initially, analytical methods, consisting of a quality review checklist and an expert walk through, were carried out to inform the overall direction of the project. While these methods were not aligned to an action research approach, they were complemented by an initial participant comparison of the messages conveyed by audio and text formats.

The summative evaluation used empirical methods comprising a questionnaire and focus groups. The questionnaire explored specific issues (such as accessibility) via closed questions, and possibilities (such as impact on learning) via open questions. The questions devised focused on access to the feedback, suggestions as to how it could be improved, number of times participants had listened to it, the balance of positive and negative comments, contextual factors which would impact on their ability to engage with feedback, and future preferences. These questions were selected on the basis that they would provide an indication of participant engagement with and response to the feedback, and start to address the first two research questions. A further question pertained to demographic data, revealing that the participants in the study were all female and mature, which should be taken into account when considering the results.

Following the completion of the questionnaires, focus groups were facilitated with a representative sample of participants. The collaborative approach which is fostered through focus groups, with the facilitator taking the role of "theatre manager" rather than "director of the play" (Bloor et al, 2002, p. 49) aligns to action research methodology. The questionnaire responses were used to generate a card sort exercise, which was deployed to stimulate discussion in the focus group.

To achieve formative and summative purposes, an e-journal was maintained throughout the project to capture the reflections of tutors engaged in providing audio feedback. This aligns to action research methodology (e.g. Kemmis and McTaggart, 1988, p. 13). Furthermore, it was used to explore the concerns relating to time and resources involved in preparing audio feedback.

Data analysis methods

It was decided to classify the responses to open questions on the summative questionnaire and the focus groups using categories which emerge from the data and are of relevance to the research. This would complement and extend the data from closed questions in the questionnaire, and present a logical progression; initial classification of responses to the questionnaire could be used to generate tentative categories, which could be examined further via the focus group (via the card sort exercise, above). Bloor et al (2002) outline the use of analytic induction as a means to analyse focus group data (p. 66) and it was decided to broadly employ this method as a basis for further analysis.

Ethical considerations

The approach used was aligned to the BERA ethical guidelines (2004), and ethical approval was obtained from the relevant panel. In particular, since the summative evaluation was taking place after the publication of assessment results, this would mitigate any potential concerns in relation to the researcher's position of responsibility and the impact of "power" relationships. As

the approach used is aligned to the principles of action research, participants would have the opportunity to be actively engaged in the research and maintain continuous awareness of the outcomes as the research progressed. It was further agreed to publicise a summary of the results to the participants via the course virtual learning environment.

In summary, evaluation was integrated throughout the project, and this facilitated the development of a number of subsidiary action research cycles in response to the reactions elicited.

Findings and recommendations

This section starts with a systematic summary of the responses to each data collection tool; the subsequent "Discussion" links the data generated to the initial research questions and literature review; and the section concludes with recommendations for future practice.

Findings

Formative evaluation

The expert walk through was conducted with a member of staff who has published on the topic of using audio means to provide formative feedback (e.g. Merry and Orsmond, 2008). It was suggested that audio feedback is highly conducive to feedforward, giving the tutor an opportunity to provide more guidance on future professional and academic practice than would be expected in written feedback.

The results of the initial comparative evaluation of text and audio as a means of communication elicited a limited response; of the 32 PGCHPE participants, only 6 completed the initial evaluation questionnaire, and of these, 4 offered qualitative comments. Despite the limited response, the comments provided were illuminating; generally participants suggested that the audio approach was provided in more accessible language, offered more examples to illustrate points made, and strategies to solve problems.

Summative evaluation

Questionnaire

The summative evaluation questionnaire elicited 10 replies out of a possible 32, a 31.25% response rate. Apart from the percentages below, the quantitative data has not been analysed, as the number of respondents was not statistically significant.

8 of the respondents were female, whilst the cohort is 62.5% female. In terms of ethnic breakdown, 9 respondents were white British, and one was "other Asian". The ages of participants are indicated below:

Age	Response	Count	%
60+		0	0%
50 - 59		1	10%
40 - 49		6	60%
30 - 39		1	10%
20 - 29		2	20%
Total		10	100%

Table 1: Age of questionnaire respondents

Respondents did not indicate difficulties with access to the feedback (4 stated it was "easy to access", 6 "OK to access"). When asked how access to the feedback could be enhanced, participants offered the following responses:

Answer	Response	%
Changes to the introduction of the audio feedback	1	11%
Improved IT support	0	0%
Change to the content of the feedback	1	11%
Change to the verbal delivery of the feedback	2	22%
No improvement needed	6	67%
Other, please add:	0	0%

Table 2: Suggestions as to how the audio feedback could be enhanced⁵

Respondents were asked to explain the responses above, and the qualitative comments included one participant who mentioned that the audio was muffled, and another who

⁵ Participants were asked to tick as many responses as they felt applied; as only 9 respondents completed this question, the percentages no longer relate to a total of ten.

commented that it was not possible to rewind. The latter may be due to the software used; it should be possible to rewind the audio; in fact, students in another study (Rotherham, 2008) highlighted the advantage of replaying the feedback.

Respondents had all listened to the feedback, and 7 out of 10 had listened to it more than once, as indicated in table 4, below:





Answer	Response	Count	%
None		0	0%
One		3	30%
Two		4	40%
Three		1	10%
More		2	20%
Total		10	100%

Table 3: Number of times respondents had listened to the feedback

Participants were asked about the balance of positive and negative feedback on their work:



Answer	Response	Count	%
Highly positive about the quality of your work		0	0%
Mostly positive about the quality of your work, but with some changes suggested		6	60%
A mixture of positive comments and suggested changes		4	40%
Other		0	0%
Total		10	100%

Table 4: Balance of positive to negative comments

The subsequent question asked participants what changes they might make to their practice; out of 5 responses, 4 participants were able to identify potential changes.

Participants were asked for contextual factors which impacted on their ability to engage with the feedback:

Answer		Response	%
Your reaction to the grade attained in the assignment		4	50%
Lack of time to engage with the feedback		1	13%
Environment, e.g. background noise		3	38%
Difficulty understanding speaker		3	38%
Other – please state (too fast)		1	13%

Table 5: Factors impacting on ability to engage with feedback

8 participants responded, and chose multiple responses. Reaction to grade attained appears to be the most significant contextual factor, with environment and difficulty understanding speaker also being selected by 3 respondents.

Participants were asked to indicate their future preference for feedback format:

Answer		Response	%
Audio		3	30%
Text		2	20%
Both audio and text		5	50%
Other, please state		0	0%
Total		10	100%

Table 6: Preference for feedback format in future

The participants on the Nursing and Midwifery Council route expressed concern about not having text based feedback to include in their portfolios. It is possible that this contributed to the number of participants requesting both audio and text feedback in table 6 above. This is further corroborated by the qualitative comments; participants were asked to expand on their reasons for the choosing audio and / or text, and of the 6 comments provided, 2 mentioned the need for portfolio evidence.

Focus group

A small group of 4 participants volunteered for the focus group; although this is smaller than may be considered typical, it was decided that the reduced number could form a viable group, and indeed some researchers prefer a smaller number of participants (Bloor et al, 2002, p. 27). The participants were all female, which is not representative of the group's gender mix. 2 participants were from the same subject area; varying levels of experience and backgrounds were represented, including a technician, a researcher, an external lecturer and an internal lecturer. The participants represented a range of ages and confidence in using technology. One participant was from a BME background and her first language was not English.

The key themes identified by the focus group are listed below.

Positive aspects of audio feedback

Personalisation; level of detail; use of examples; voice giving added meaning; academic feedforward potential; linkage to professional practice; inclusion; novelty value.

Practical issues

Practical and technical constraints; communication of mark.

Emotional response

Anxiety regarding mark; emotional impact of audio feedback.

Comparison with other forms of feedback

Limitations of audio feedback; limitations of other approaches to feedback.

Impact of audio feedback

Positive impact (for some participants); limited impact (for others).

E-journal

The e-journal entries generally reflect the trends suggested by the literature review in terms of time taken and potential to provide greater detail.

Discussion of findings

The data generated addresses the original research questions, which focused on tutor workload, an examination of feedforward potential, and messages conveyed by audio means." The findings broadly align with the literature review, with some interesting differences.

Tutors' experiences

In terms of the tutors' workload, generally this approach was found to take an equal amount of time compared with written feedback, and this connects with the literature review (e.g. Merry and Orsmond, 2008, p.5). Nevertheless, the preparation and aspects such as disseminating feedback and second marking consumed significantly more time. One positive aspect of

providing audio feedback which was not anticipated through the literature was the quality of the experience of assessing participants' work; the journal described the preparation of audio files as "more enjoyable" compared to traditional feedback. This suggests that Rotherham's (2003a) novelty effect may apply to tutors as well as learners.

Linked to the time taken to produce feedback, it is recommended that feedback should be limited to 3-5 minutes (Ribchester et al, 2008, p.5). One assessor had difficulty adhering to the suggested limit; the maximum length of feedback provided was 9 minutes.

In terms of disadvantages, the availability of time and quiet space to engage in audio marking was problematic. Other disadvantages related to lack of technical proficiency, and adapting to a new method of working. The latter point is illustrated by the following comments, made after marking the first nine scripts:

"At first I found assigning a mark more difficult than previously. I normally write feedback, then re-read it to assign a mark."

"In some ways in preparing the audio feedback I feel more "exposed" - if I am a little uncertain, I think it will be apparent in my tone of voice."

(Journal entries 8th May 2009)

These issues align with the reservations expressed by tutors indicated by Rotherham (2008a, p.3-4). Increased experience of the production of audio feedback would be likely to mitigate the majority of the concerns expressed.

Feedforward potential

Tutor comments provided to students following assessments normally include aspects of both diagnosis and future action. In this context it is appropriate to refer to some aspects of the tutor comments as 'feedforward'. For the purposes of this research, the feedforward potential of tutor comments is considered to be of enormous value in the wider context of teaching and learning, thus the feedforward potential of audio comments presented to students following an assessment have been a key focus of this paper. In relation to feedforward potential, the findings largely indicated that, as anticipated in the literature review, audio feedback may be more likely to contribute in this regard than other approaches. The response to the summative questionnaire was somewhat limited in relation to messages for future practice, with 5 out of 10 participants offering comments in relation to this aspect, only 3 of which were clear about changes to approach. However, the focus group participants all indicated that the audio commentary had feedforward potential; an intention to use the feedback in preparation for the next assignment was elaborated. While there was some discussion of its relevance to the

subsequent assignment (a poster assessment) participants concluded that the key points could nevertheless be applied.

As well as impacting on academic practice, it was anticipated that the verbal feedback may address the level of "micro-world" of the participants' own professional practice (Laurillard, 1993, p. 103), for example providing guidance which could be applied to learning and teaching situations. The feedback suggests that this did take place, but not necessarily in the manner anticipated by the researchers. Focus group participants indicated that the audio feedback had provided a role model of good practice, encouraged them to reflect on their own approach to providing feedback, and consider their use of positive and constructive language. A discussion also took place within the focus group as to potential alternative forms of feedback for the future, as participants pondered what medium might supersede the audio approach. This outcome to some extent contrasts with the tutor's reflections in the e-journal, which suggest that professional practice had been encompassed directly in the feedback:

"... I feel I am giving much fuller feedback, including messages which will impact on future academic and work-based practice."

(Journal entry 8th May 2009)

Messages conveyed by audio means

The responses to the questionnaire and focus group generally indicated that audio feedback provided more detail, examples to illustrate points made, and clarity about improvements needed (although some questionnaire respondents were less clear about this aspect, as illustrated later). It was also suggested that tone of voice used enhanced learners' understanding of the points made. Furthermore, academic language was made more accessible:

"And when the audio feedback came, there were examples to say 'You evaluated this when you did this and that', and you say, 'Oh, that's what they mean when they say critically analyse, and evaluate', and it's just those simple things that sort of click."

(Participant C, lines 400-404)

These comments align to the advantages elucidated in the literature review, for example enhanced clarity (Roberts, 2008, p.4; Rotherham, 2008a, p.1), strategies to solve problems (Merry and Orsmond, 2008, p.4), inclusion of examples (Rotherham, 2008a), and increased detail (Merry and Orsmond, 2008; Rotherham, 2008a). Participants in this evaluation also commented on the novelty nature of the approach, describing it as "interesting", "different", even "exciting"; according to Rotherham (2008a, p.3), novelty value could provide an explanation for positive responses, hence the need for continuing evaluation is indicated.

It was anticipated that the use of audio had the potential to contribute to inclusive practice, and evidence for this was volunteered by the focus group. One participant, whose first language is not English, commented that both the language used and the tone of voice enhanced the meaning of the feedback for her, and this corroborates the findings of Rotherham (2008a) in relation to international students. Another participant described herself as an “auditory learner”, and suggested that this had enhanced her ability to benefit from and remember the feedback. This provides some evidence for the assumptions of Merry and Orsmond (2008, p.2) in relation to learning preferences and audio feedback.

The enhanced personalisation of this approach was a key theme in the literature review (for example, Rotherham, 2008a, p.3), and again this was highlighted by the focus group participants. It was perceived that assessors had taken “time out” to focus on each individual’s assignment. For some participants this seemed to enhance the meaning, and this was compared favourably with text feedback:

I know, because with the written feedback, you know we used to get the forms, and it just felt a bit detached from your piece of work, but this, you know you really actually felt like “Oh yes, I know what he’s talking about when he said that”. I preferred the audio.
(Participant C, lines 255-8)

Nevertheless, for one participant, the feedback was undermined as she did not agree with the comments made. This links to the issue highlighted in the tutor’s e-journal in relation to feeling “exposed”; any lack of clarity as to the assessment is brought into sharp focus through the medium of audio. This participant concluded that listening to the audio and reading the assignment at the same time would promote a more personalised experience, which furthermore aligns with Roberts’ (2008, p. 4) suggestion that this approach would help to make sense of the guidance provided.

Practical issues impacted on the messages conveyed by audio feedback and its feedforward potential. One participant almost deleted the email conveying the feedback as the title made it appear to be junk mail; another participant had difficulty accessing the feedback as she worked in an open-plan environment, and felt embarrassed to listen to the audio in the presence of her colleagues; a further participant played the audio at the wrong speed. Some feedback provided was muffled. However, the key issue for all focus group participants and most questionnaire respondents was the timing of giving the mark. The literature was not conclusive on the topic of including marks with feedback or separately; a decision was taken by tutors to include the mark at the end of the feedback. However, participants indicated that they were unable to concentrate on the feedback until they had discovered their mark. It was suggested that ease of access to grade was a particular advantage of text feedback compared with audio. While it was recommended by the group that the mark should be given at the beginning, there was some discussion as to the impact of grade on likelihood of engaging with the feedback; it was

anticipated that participants who gained poor marks may be less likely to attend to the commentary. One participant suggested that being informed in advance that the mark would be provided at the end of the audio would mitigate this issue. For one questionnaire participant the positioning of the mark had a significantly negative impact on her feedback experience:

“Grade point first then feedback can be seen in context, no point getting unremitting positive feedback and at the end learning gp11⁶ not clear what improvements needed.”

A further unanticipated issue which arose during the research was the emotional response to assessment and feedback. Participants described themselves as lacking in confidence, anxious, even desperate, in relation to finding out their grade point. The audio feedback provoked a range of emotions, including surprise, happiness (regarding the grade), fear of embarrassment (in relation to others over-hearing), annoyance (at not having any text) and relief. The constructive comments provided appeared to evoke a positive emotional response and build confidence. The emotional aspect of audio feedback is an area which may merit further research, as it was not evident in the literature surveyed.

Another feature of this research which possibly differentiates it from the existing literature on this topic is the age of the participants. Their profile would seem to suggest that they are less likely to be part of the “digital native” generation (Prensky, 2001). Hence unlike younger students, who may be more accustomed to accessing information through sound via multimedia technology (Merry and Orsmond, 2008), it could be anticipated that this group may be less comfortable accessing MP3 files. The generally positive responses to audio feedback from this group are of interest given the potential influence of age.

Conclusions and recommendations

The evaluation elicited a response which was disappointing in terms of number, but nevertheless provided rich and thought-provoking data. While generally the responses aligned to and in some cases further substantiated the literature, some additional aspects emerged, in particular the emotional response to feedback, positioning of the mark within the audio file, practicalities such as attempting to access feedback in an open plan office, tutors feeling “exposed” and, linked to this, course participants’ heightened sensitivity to the accuracy of feedback.

Based on the generally positive response to the evaluation, it is recommended that audio feedback could be considered in other learning situations, for both formative and summative purposes. In relation to the latter, to enhance the experience for the participants, tutors should

⁶ GP = grade point; an 11 is a merit grade (the scale is 1-15, with 7 as the pass grade).

consider the merits of providing the mark at the beginning, or separately. An alternative suggested by one focus group participant was to tell participants mark will be at the end of the audio in advance. Participants should be encouraged to listen to feedback with assignment in front of them to enhance personalisation. A minor practical issue of great significance to the participant concerned would be to alert participants to the date of releasing feedback, and suggest they bring headphones if their office is open plan. Some alterations to file quality may be needed to address the issue of muffled delivery. The emotional response to feedback could be further examined. Since some participants were less positive in their response to audio feedback, offering a choice of feedback method should also be considered; “inclusive feedback” could align to the inclusive assessment proposed by Waterfield and West (2005).

It is intended to conduct further iterations of the research with PGCHPE participants; a focus suggested by the expert walkthrough was to explore a possible correlation between response to feedback and grade attained. Additional technical innovations could be examined, such as the use of voice recognition software, and embedding audio comments in documents.

Recommendations for future practice comprise suggestions to enhance the technical, practical and emotional experience for all participants, and offering a choice of feedback mechanism. It would seem that there is the potential to extend the application of this technique with a view to enhancing and evaluating professional and academic learning from summative and formative assessment.

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Case study: A community of practice for constructivist professional development in e-Learning

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Abstract

Communities of practice, social learning and constructivist learning are all increasingly seen as models for workplace learning but have rarely been applied in educational institutions for professional teacher development. This case study describes the use of both a constructivist and community of practice approach to e-learning skill development through two online events – the 'e-Treat' and 'Ask the Experts: Mind-mapping'. These events have been designed using an e-Design template in order to embed constructivist principles of e-learning that support and scaffold learning. The 'e-Treat' also incorporated an e-Buddy system to provide peer-support and mentoring to participants. These events suggest that it is possible to plan, design and deliver effective professional development that incorporates a constructivist pedagogy in a community of practice approach.

Keywords: Teacher development; e-learning; community of practice; social learning; constructivist; learning design

Introduction

Since the 1990s a revolution has been taking place. The traditional theories of learning following a transmissive model (whereby content is delivered by a teacher to a learner and therefore 'learned') have largely been swept away by the tide of social constructivist theories that suggest learning occurs by activity, by interaction with others and by constructing our own understanding.

In their preface, Jonassen and Land say of these contemporary learning theories,

"At no time in the history of learning psychology has there been so much fundamental agreement about the epistemology, ontology, and phenomenology of learning."
(Jonassen & Land, 2000)

This shift in learning theory has implications for both teaching and learning and for the professional development of teachers, especially those trained more than a few years ago. For example, constructivist approaches suggest the following kinds of learning approaches/activities should be utilised for effective learning:

- the significance of learners' previous knowledge, beliefs, conceptions, and misconceptions
- paying attention to learners' meta-cognitive and self-regulative skills and knowledge
- an emphasis on negotiation and sharing of meanings through discussion and collaboration
- the use of multiple representations of concepts and information
- the need to develop instructional methods that take into account the situational nature of learning and thus integrate knowledge acquisition and knowledge use
- the need to develop assessment procedures that are embedded in the learning processes, focus on authentic tasks and take into account learners' individual orientations and foster their meta-cognitive skills

(adapted from (Tynjälä, 1999)

As professional teachers we are encouraged to use these constructivist approaches and utilise a range of activities, interactions, discussions and group work to support effective learning. However, e-learning professional development for teachers has all too often been composed of training programmes planned by managers along a transmissive model that consists of isolated workshops with little room for constructivist activity, interaction with peers or sustained reflection. These workshops are generally designed to achieve an institution's strategic plans for the integration of e-learning in teaching and learning and can be planned up to 18 months in advance. Alternatively, teachers are sometimes offered access to accredited e-learning programmes that deliver a prepared curriculum that may be planned years in advance and have

their own set of learning outcomes that are not necessarily linked to those of an institution. So how can these constructivist principles be embedded in professional development? As Jones puts it:

“It’s my argument that there exists a dissonance between the philosophical underpinnings expected of good teaching and learning and the philosophical underpinnings of how universities attempt to encourage and enable good teaching and learning, especially in e-learning.” (Jones, 2011)

At Staffordshire University e-learning staff development is delivered through a range of initiatives. This includes the integration of e-learning modules into accredited CPD modules; an integrative approach that blends workshops with bespoke activities, and the Best Practice Community of Practice (Stiles & Yorke, 2006). Communities of practice are “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.” (Wenger, 2006) This approach can enable interactions, activities and collaborations to take place that can support the ongoing professional development of practitioners in a social constructivist setting (Wenger, 1999). By allowing more flexible and practitioner-centred activities, this approach also enables a naturalistic approach to professional development. A naturalistic approach takes account of the complexity, changeability and inherent ‘unknowability’ of the interactions between the practitioners’ learning needs, the institution’s needs and the learners’ needs (Kurtz & Snowden, 2007). In addition to supporting the individual learning of the practitioner, Professional Learning Communities can improve classroom learning and achievement (Saunders, Goldenberg, & Gallimore, 2009; Vescio, Ross, & Adams, 2008). The Best Practice Models for e-Learning community of practice is an online facilitated space that plans and supports activities based on constructivist principles. These activities are aligned broadly with the aims of the institution, but are flexible enough to allow practitioners to focus learning on their own interests and needs.

So how can professional development for e-learning exemplify social constructivist theory and so enable effective learning by practitioners? Can activities be developed that allow practitioners to both experience constructivism as learners, and develop the expertise needed to apply it in practice? This case study describes how two staff development activities facilitated constructivist learning for practitioners in a community of practice, and led to one participant (SH) changing his teaching practice to include a constructivist activity using technology. The companion case study by SH (Hall, 2011) describes his experience as a new member of staff accessing these events and the impact it had on his learning and performance.

Methodology

This case study aims to describe the design, delivery and outcomes of two related professional development training sessions. Yin (Yin, 2009) argues that case study research is an all-encompassing methodology that focuses on a contemporary phenomenon in its real-life context

and relies on multiple sources of evidence. This case study has therefore attempted to include details of the pedagogic design principles, the delivery methods and data from user surveys. In addition, the case study is presented in this volume with the companion case study authored by one of the participants to offer an alternative perspective.

The Best Practice Models for e-Learning Community of Practice

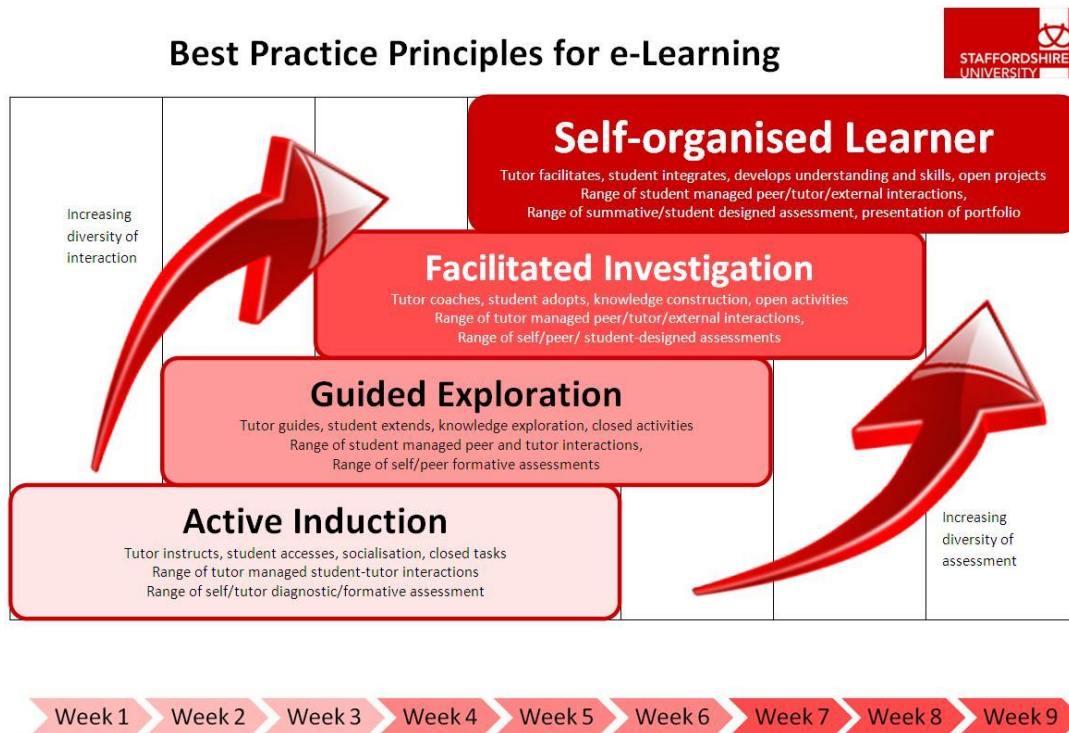
The Learning Development and Innovation team at Staffordshire University started the Best Practice Models for e-Learning project in 2006. This aimed to make available a range of existing models for e-learning activities in an online environment accessible for interested practitioners from within the university and the wider educational community. A range of discussions, workshops and events has been facilitated to support engagement with, and sharing of the different models. There are other examples of e-learning professional networks that are informal and unstructured such as the ILT Champions and MirandaNet, but the scaffolded, activity-led approach taken by the facilitator for the Best Practice Models community has enabled focussed discussions on carefully selected topics using specially commissioned case studies. Since the project started, a number of different types of workshops and events have been designed and run. For example, the series of 'Ask the Expert' sessions included a small selection of (usually commissioned) case study presentations followed by a discussion in the online forum. These events usually included the synchronous and asynchronous use of a forum, and latterly, the use of a web-conference for the case study presentations. The case studies and discussions were still available to the community after the event for review and reference. Feedback suggests that these events were an effective way for practitioners to both share their experience, and to learn about the application of e-learning. These popular events provided a space for practitioners at all levels of development to learn from each other, share expertise and network. (See appendix 1 for access to this site.)

The scaffolded learning design for these online events is based on the e-Design template. This is a new model developed on constructivist principles from a range of guides and models (mostly available in the Best Practice Community). It is intended to support practitioners when creating learning designs for e-learning. The template embeds principles to guide the development of quality e-learning and scaffolding to guide the development of learners. These principles are:

- E-Learning is designed in **timed** chunks that emphasises time on task and expectations
- E-Learning is **assessed** using a range of types (self/peer/tutor) and options/choices
- E-Learning includes a variety of **interactions** between student/ tutors/ peers/ externals
- E-Learning is **accessible, activity-led, collaborative** and designed in **phases** that support, scaffolds and increases learner independence

(Walmsley, 2011)

The principles are mapped to the e-Design template that can be used to plan and share learning designs:



The scaffolding is comprised of online learning activities that begin as teacher-managed and closed-task which gradually change to learner-managed and open-task. This approach enables the learning design to both support the novice online learner as well as gradually facilitate more challenging tasks for expert online learners. It also models the change from a transmissive to a constructivist learning environment. This case study explores the learning design and the experience of learners in two online workshops, the 'e-Treat' and the 'Ask the Experts: Mind-mapping'.

The e-Treat (August 2010)

The e-treat concept was inspired by a case study of a successful face-to-face writers' retreat that enabled participants to take time away from home and work to focus entirely on writing for publication. To what extent is the success of a writers' retreat due to the psychological space created? Could this be converted to a virtual space? E-Learning practitioners and designers often work individually or in small teams and can feel isolated. During the summer of 2010 the facilitator planned a new format for an online event that would enable practitioners to come together in a



virtual online space to work on their own project, support and motivate each other and offer feedback on progress. In addition, an 'e-Buddy' was introduced to increase the peer support available.

The e-treat consisted of three days of virtual online activity. There were a small selection of optional web-conferences and discussions, but the bulk of the time was set aside for participants to work on their project. The programme was as follows:

Day 1

- 09:30-10:00 Post a short introduction to yourself and your project
- 10:00-10:30 Send your assigned 'e-Buddy' a message and arrange a meeting
- 12:00-12:30 e-Learning Design: Join the web-conference
- 16:30-17:00 Round-up of day 1 in the web-conference room

Day 2

- 09:00-10:00 Tell us an inspiring e-learning story in the forum!
- 12:30-13:30 Lunch with your e-Buddy
- 16:30-17:00 Forum Discussion: How can technologies save time for tutors?

Day 3

- 09:00-09:30 Evaluating e-Learning: Join the web-conference
- 12:30-13:30 Lunch with your e-Buddy
- 15:00-16:00 Show-and-Tell: Congratulations! You've completed the e-Treat!
- 16:00-16:30 Reflect and Evaluate

The learning design mapped to the e-Design template is as follows:

Active Induction	Guided Exploration	Facilitated Investigation	Self-organised Learner
Activity 1: Post a short introduction to yourself and a summary of your plans for the 3 days in the forum Feedback given by tutor in forum 2: Round-up of day 1 in the web-conference	3: e-Learning Design: Join the web-conference 4: Evaluating e-Learning: Join the web-conference	5: Tell us a story about e-learning to excite and inspire us in the forum! 6: Forum Discussion: How can technologies save time for tutors? Feedback given by tutor in forum	7: Show-and-Tell Feedback given by tutor in forum 8: Reflect and Evaluate



The learning design was created to embed the principles, as well as moving from tutor-managed, closed-task to learner-managed, open-tasks. The participants in this event had a wide level of experience of using online technologies and their skills ranged from expert to novice.

Five practitioners from the university and the wider educational community provided an outline of their projects to focus on during the e-treat. These included plans to write e-learning modules, staff development courses and explore a specific tool etc. Each participant shared their thinking and progress on their own topic, and participated in most of the online events. They shared their progress on their work so far in the final 'show and tell', and most had achieved a high level of quality work together with reflections on the process. The feedback gathered at the end of the e-Treat was very positive about both the event itself and the role of the e-Buddy. Specific comments about the e-Buddy included:

"A buddy was a great idea, it helped to share experience and to take time out. It helped to re-motivate me when my energy levels were dropping."

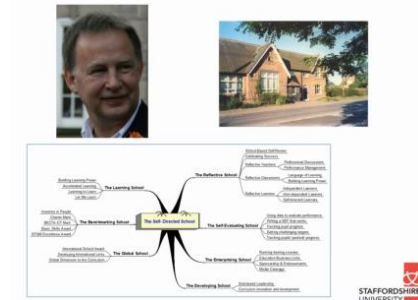
"The buddy was a first port-of-call each morning and had the technology been better on my side there are several possibilities for talking things through before posting to the forum."

"Great, supportive and timely buddy!"

Following on from the event, SH (a colleague from the Business School at Staffordshire University) approached me to say that he'd found the e-Buddy idea very helpful and wondered if it would be possible to continue this with me as his e-Buddy? He wanted to develop his work on the mind-maps and to try to use them with his students. We agreed and it was suggested that he might be interested in presenting a short case study of his findings in one of the forthcoming 'Ask the Expert' online events in the Best Practice Models for e-Learning community. We then agreed an action plan and arranged follow-up sessions to review progress and prepare for the online event. SH's chosen topic to develop further was one that had arisen from his previous experience and was not defined by the institution. See the companion case study by SH (Hall, 2011) for full details of the e-Buddy experience from the practitioner's perspective. We are now working together to both explore the topic in practice and then present the outcome to the community. This will model the constructivist approach to learning, as well as situating the activity in a community of practice.

'Ask the Expert: Mind-maps' (Dec 2010)

The 'Ask the Expert: Mind-maps' event was arranged for Dec 2010 and the members of the Best Practice Community were invited to participate. In addition, some members volunteered to present case studies of their experience of using mind-maps in various ways. Several days prior this event, the 20+ participants were able to review the case studies and a number of other resources around using mind-maps in teaching and learning. The event consisted of an open discussion forum in the community with the presenters and the participants. There were 3 case studies presented, including SH's screen-cast and a lively forum followed where practitioners discussed and shared their learning.



Screenshot of SH's screen-cast for the online event
<http://www.screenr.com/PTq>

The learning design for the event mapped to the e-Design template was as follows:

Active Induction	Guided Exploration	Facilitated Investigation	Self-organised Learner
1: Introduce yourself in the forum 2: Read/watch case studies	3: Select and read/watch appropriate and relevant resources	4: Discuss case studies with presenters and participants in forum	

A selection of forum postings is given below:

SH: "I'm just starting to explore concept mapping as a means of making connections between one idea and another and making them more explicit. I find that with mind-maps I put the ideas down in single words or short phrases but the connectivity with other 'branches' stays in my head rather than articulated on the map."

MJ: "I quite like the idea of using Mindmanager as it allows stitching together. I can see how useful it would be in group based work. It is certainly worth trying."

HJ: "Although I'm a very verbal person, I'm also someone who seems to be just permanently frustrated by ways information is presented and shared with others on our course (colleagues think I just want to work in advertising/ marketing, given the way I bang on about fonts, displays, use of pictures, colours etc!), so I got interested in these tools because I wondered if it would feel like a more organic way to develop thinking, see the 'whole' and work

collaboratively with people who think differently from me. I'm a little wary, though, that it can be too easy to get caught up with the software for its own sake.”

The participants ranged from those completely new to using online mind-maps in their teaching, to those who had experience and expertise. The discussion included a wide range of responses between peers that demonstrates the opportunity for constructing meaning through social interaction. However, the scaffolding of activities and combined asynchronous and synchronous timing allowed ease of engagement and high value for busy practitioners.

The feedback from participants shows a high level of satisfaction with the event:

#	Question	Agree strongly	Agree	Disagree	Disagree strongly	Responses	Mean
1	My IT Skills have improved due to this workshop	1	7	1	0	9	3.00
2	My IT confidence has improved due to this workshop	2	5	2	0	9	3.00
3	I am more enthusiastic about applying this technology/skill due to this workshop	3	6	1	0	10	3.20
4	I will be trying out this technology/skill within the next month due to this workshop	3	5	1	0	9	3.22
5	This workshop has inspired me to experiment with this technology/skill	5	4	0	0	9	3.56
6	This workshop has inspired me to innovate in my teaching	4	5	0	0	9	3.44
7	I would recommend this workshop to my colleagues	7	3	0	0	10	3.70

Since the 'Ask the Experts' activity, SH has continued to explore his use of online mind-maps with his students and has been reflecting on their effectiveness.

Conclusion: A model for staff development?

This case study demonstrates that professional development has been enabled through the combination of an online community of practice and a constructivist approach to learning activity.

The Best Practice Community is a Staffordshire University initiative that attempts to encourage innovation whilst also managing the institutional tensions that can arise from innovation by providing models of best practice and a supportive community of practitioners in which reflective development can take place (Walmsley & Yorke, 2010). Activities that take place in the community draw on constructivist principles, for example, the opportunities for participants to share their own knowledge, collaborate and site their learning in their own authentic work contexts.

Practitioners in the 'e-treat' and the 'Ask the Experts' event were able to learn and develop through the process. In addition, the support of an e-Buddy has been significant in providing the commitment to action necessary for the preparation and presentation of a case study on progress back to the community. Thus the learning community both learns and shares its learning. The process of SH's personal development can be mapped to the e-Design template to illustrate the way the principles and the scaffolding have been embedded:

Active Induction	Guided Exploration	Facilitated Investigation	Self-organised Learner
<ul style="list-style-type: none"> • Attend e-treat and participate in activities • Peer informal assessment of project outcomes in e-treat 	<ul style="list-style-type: none"> • Buddy sessions to explore mind-mapping in more detail • Buddy informal evaluation 	<ul style="list-style-type: none"> • Presentation at 'Ask the Experts' event on experience of using mind-maps • Peer informal evaluation 	<ul style="list-style-type: none"> • Reflection on own learning progress. • Buddy sessions to plan and support work on written case studies • Authentic assessment of peer-reviewed and published case study



Hart (Hart, 2011) suggests that workplace learning be measured in terms of performance improvement, rather than quantifiable metrics, and SH's evaluation of the impact these two events have had on his own performance is significant:

"As a result of the e-buddy scheme therefore practice has been changed, pedagogical approaches have been modified and students' assessment grades have gone up!"

(Hall, 2011)

In conclusion, it can be seen that a community of practice and constructivist approach to professional development can be both effective and empowering. Additional e-treats, online and face-to-face workshops are planned that will encourage professional learning in a constructivist community. In addition, the e-buddy scheme is being expanded with the option for staff to identify their own learning requirements and be supported in achieving their learning and sharing it with the community.

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Appendix 1

If you would like access to the Best Practice Models for e-Learning online community, then please see the website:

<http://learning.staffs.ac.uk/bestpracticemodels/> Once you have created an account, access the community with the key BP06 (case sensitive)

IntelPrep, BARD and LinkImplication: processes for improving student learning and decision making

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Abstract

This paper summarizes an Integrated Learning and Pedagogical Research Process (labelled IntelPrep), within which a combined Business Analysis and Academic Research approach (labelled BARD) plays a prominent role, itself incorporating the concept of linking analysis to recommendation (labelled LinkImplication). IntelPrep combines a learning process which is made explicit to students and evaluated with a piece of pedagogical research into student perceptions of that process, particularly into the use of BARD. Evidence suggests that the BARD approach has benefits for students in terms of deeper learning, easier structuring of answers and better results but also imposes a heavier workload.

While the context for the following explication of this approach is in business and management, BARD has applications in any subject where students are using most of the elements of inquiry-based learning, as characterised by Hepworth and Walton (2009, p.82-3) and, subsequently, in career and life decisions. Equally, IntelPrep involves a series of stages which can be applied to the delivery - and assessment - of most curricula.

Introduction

Many formative learning tasks and summative assignments require students to recommend courses of actions in case-study scenarios. Typically, many students tackle such an assignment by proposing an answer and then justifying it by listing the advantages and (sometimes) disadvantages of their chosen option. In writing about the biases that dooms much business and life decisions, Heath and Heath (2013) found that people make quick decisions and then search for information which confirms that belief, a phenomenon known as confirmation bias. Kahneman (2011) also found that people have intuitive opinions and jump to conclusions by giving too much weight to information which is immediately or recently available. This last might suggest an additional criterion for the evaluation of information on top of those summarised by Hepworth and Walton (2009, p.207)

In short, most students do not demonstrate a clear process that will result in a logical decision. Lovallo and Siboni (2010) found that process was six times more important than analysis in making good decisions about how to increase profits and market share. Articulating a process through which a business decision (BD) can be made is also a higher order managerial skill and is in many ways similar to the academic research (AR) process which builds a model which may then be tested through its application to a data set.

A piece of secondary data research, conducted by this author, into students' past papers confirmed this lack of a decision model in most cases and, further, that those students who did incorporate management models of some sort often failed to establish a clear connection between the application of such models and any recommended course of action i.e. they did not demonstrate that they understand the implications of the application of the model they have chosen. Indeed, in some cases, students provided their answer to the task and then 'applied' a model afterwards – presumably as a sort of tick box exercise.

The IntelPrep framework shown below has been formulated as one attempt to redress some of the above failings. This version has 8 stages although it is possible to maintain the central learning strategy without the final 2 stages which evaluate the effectiveness of the learning strategy in detail.

The 8 stage IntelPrep Learning & Teaching Framework

Stage 1: Benchmarking Learning Outcome (LO) Questionnaire

Students are given a copy of a previous student's answer to an assignment on international market selection. Their understanding of a number of generic skills such as 'evaluation', 'synthesis' and 'critiquing academic literature' is tested by their agreement or disagreement

with the past student's answer in demonstrating these skills and, more specifically for BARD, whether the student answer:

- a. Made explicit the process by which the student arrived at their decision
- b. Provided a comprehensive analysis of all the factors relevant to the decision
- c. Demonstrated the implications of research evidence for the decision

Stage 2: Feedback to students on LO Questionnaire responses

Feedback on student responses is provided through Blackboard and is also discussed in a seminar. Generally, the vast majority of students consider the past answer to meet assessment criteria, particularly with respect to 'justifying' the decision. Student responses are then compared with my responses (which are that the past student answer failed), the purpose being to clarify their understanding of our LO's and my expectations of their performance in the assignment.

Stage 3: Introducing the BARD approach

The process below is introduced following the Stage 2 feedback. It incorporates a presentation which applies BARD to a previous case study. The process is also described in the student handbook.

Conduct a search for academic journal articles in the subject area in order to build knowledge and understanding and recognize different perspectives

Synthesise the above, evaluating evidence and critiquing research where possible

Develop a decision model incorporating the variables needed to inform the recommendation. This is the student's theory about the way things work and may be a small adaptation to extant models or a completely new model. By doing this, the student is defining the process which will be used to lead to their recommendation/decision.

Apply the model to the task context using a method defined by the student. This could be, for example, a system which scores feasible alternatives against model variables/criteria or a more qualitative method. It is at this point that some students have difficulty in relating model application 'results' to recommendations, so the next step is....

Make explicit the implications of the applied model for the decision i.e. link implication

Bearing in mind the principle of relating new to existing knowledge, this approach might risk introducing ambiguity since it appears (for most students) to contrast new skills with existing skills. It therefore has to be continually reinforced as shown in Stage 4.

Stage 4: Embedding the BARD approach

Students give 3 group presentations on case studies covering key marketing decisions. Typically, few students present a model in their first presentation, suggesting that the new approach initially lacks the 'stickiness factor' (Gladwell, 2000). It is also likely that some students have not yet grasped the concept of 'model', which (here) is explained as a simplification of reality and shows or lists the key relevant variables in the decision (Briggs, 2007).

Stage 5: Feedback to students on seminar presentations

Groups receive written feedback only on slides which specifically address their performance in individual components of the BARD process e.g. model building and linking implications of model outputs to recommendations.

Stage 6: One-to-One sessions with students

These are offered to all students with the requirement that they are based entirely around the use of the BARD approach

Stage 7: Questionnaire 2

This large questionnaire is posted on Blackboard in the penultimate week. As well as many 'general' module monitoring questions, there are specific questions on the use of BARD and all the learning materials and activities used in embedding BARD.

The questionnaire is also a final reminder to students that they really have to use the BARD approach and that the assessment criteria reflect this.

Stage 8: Analysis of student assignment results

Together with the analysis of Questionnaire 2 an examination of student papers and marks is used to assess the effectiveness of IntelPrep and BARD in bringing about 'deep' learning.

Evaluation of IntelPrep and BARD

In the IntelPrep framework, students are encouraged to engage with an explicit learning strategy early on in their studies and they receive regular feedback which is focused on embedding the central BARD approach in order to aid summative assessment preparation.

The most important proposition here is that it is identification, selection and interaction, mature application and implication of the relevant model variables which shows true knowledge construction (Eriksson, 2003) whereas the conventional evaluation of options via advantages and disadvantages does not constitute true understanding. It is the design of a decision model and its linking to the decision which gives rise to the sort of deep learning as advocated in Marton and Saljo (1984) and Ramsden (1992) and discussed in Wilson (2000) and, at the same time, improves the process of decision making.

From a student perspective, BARD causes a lot of additional work but helps them structure their assignments and most students questioned claim that they would use the BARD approach in future assignments and in future work situations.

From a teacher perspective, BARD appears to result in a significant number of outstanding student papers, as indicated by External Examiner feedback and 'industry clients'. In some cases, the subject area has been moved forward.

BARD also appears to distinguish effectively amongst student performance. This is perhaps surprising since a common prescribed approach might be thought to lead to standardised responses. The differentiation occurs in the competence with which the model building is undertaken, the methods used to move from model application to implication, and the level of maturity demonstrated in terms of the practical feasibility of the specific recommendations made.

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Students' perceptions of self-selected peer learning in a collaborative Chinese speaking assessment

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Abstract

It is widely recognized that matchmaking for group formation is one important factor that determines the effectiveness of peer learning. Finding peers with certain peer learning skills and content expertise is likely to induce interaction that contributes to learning performance. However, there has been relatively little attention to how students self-select their peers to work on a collaborative task while this is particularly important for university students who need to form groups by themselves. This study aims to explore (i) how students self-select peers to prepare a collaborative speaking assessment, (ii) how students perceive the peer learning process with self-selected peers, as well as (iii) the differences in students' perceptions of the assessment interaction and performance between working with self-selected and randomly assigned peers. Results show that students choose peers from classmates whom they have interacted with before. Students are more satisfied with the interaction process and their own language skills with self-selected partners than with randomly assigned peers. The results of this study provide implications for future research to match peers for peer learning.

Keywords: peer learning, peer matchmaking, group formation, selection criteria, Chinese speaking assessment

Introduction

Language development is a social process, in which a learner makes use of the target language in interaction with artifacts and other people in authentic learning contexts (Foster, 1992). In foreign language learning settings, students should communicate in the target language as much as possible. Since it is impossible for one teacher to interact individually with many students at the same time, especially in higher educational settings, students often need to practice the target language with their peers. Peer learning concerns a group of learning approaches in which students who are each other's equals help each other to learn through active interactions (Topping & Ehly, 2001). Applying peer learning approaches in foreign language learning creates a natural need for using the target language for communication purposes.

The effectiveness of peer learning approaches depends on whether particular forms of interaction will occur, such as negotiating meanings to reach mutual understanding and deep learning (Dillenbourg, 1999; King, 1997; Topping, 1996). As suggested by peer learning studies, the possibility that particular forms of interaction will occur depends on how the initial conditions are set up and how interaction among learners is structured (Dillenbourg, 1999; King, 1997; Topping, 1996). While most studies of peer learning have focused on structuring the peer interaction to maximize the learning effects (King, 1998; King, Staffieri, & Adelgais, 1998; Topping, 1996), only a few studies are concerned about how to set up the initial conditions, such as how to match peers to form pairs or groups (Dillenbourg, 1999; Seethamraju & Borman, 2009). Pairs or groups are often formed randomly without applying any matchmaking criteria. Some studies considering pair or group forming only suggested that different cognitive benefits result from different tutor-tutee arrangements such as same-ability or cross-ability peers (Cohen, 1994; Falchikov, 2001; King, 1997). In addition, these arrangements referred to *teachers'* pedagogical judgments and they mostly focused on one matching criterion of *ability*, which can be general ability level or subject-matter expertise. However, it is to be researched if students' ability alone suffices to induce beneficial interactions when peer learning approaches are applied or if there are other factors to be considered.

Regarding higher educational settings, it is common that university students need to collaborate with others to finish lecture assignments, for example while working on team projects. Group forming is usually left to students: students have autonomy to choose whom they want to work together with. Though giving learners autonomy to work together is beneficial for the success of the interaction process (Roscoe & Chi, 2007), it might be difficult and time-consuming for them to find out suitable peers because the social structure of a university lecture is not as clear as in the obligatory education in primary and secondary schools: university students often do not know each other well. For reasons of convenience,

they often choose peers randomly. But if students are given a chance to first get to know each other, and then have autonomy to find their peers, how do they select peers for a collaborative task? Do they make choices based on certain selection criteria?

Among diverse peer learning approaches, peer tutoring and peer monitoring are most frequently applied in language learning settings. Peer tutoring is defined as “people from similar social groupings who are not professional teachers, helping each other to learn, and learning themselves by teaching” (Topping, 1996, p.322). Studies of tutoring have suggested that content knowledge (e.g., subject-matter) and tutoring skills (e.g., pedagogical and process-facilitation skills) are correlated and both are necessary conditions for effective tutoring (De Grave, Dolmans, & Van Der Vleuten, 1999; Moust & Schmidt, 1995; Schmidt, van der Arend, Moust, Kokx, & Boon, 1993). As for peer monitoring, when peers learn together, they observe and check each other’s engagement in their learning process and give each other feedback (Topping & Ehly, 2001). As shown by diverse peer learning studies, students with skills in tutoring and monitoring are likely to trigger extra cognitive benefits during the interaction process (King, 1991; King et al., 1998; McLuckie & Topping, 2004). Though these skills are crucial to the effectiveness of peer learning, no attention is drawn to whether students consider these skills when selecting a peer to work together with. When students are given autonomy to select peers, will making students aware of others’ peer learning skills increase the effectiveness of peer learning?

The purpose of this study is two-fold. We first explore how learners choose peers for a collaborative task. Based on the studies mentioned above and on our own observation of peer interaction, we look at the selection criteria of peers’ tutoring and monitoring skills (i.e., tutoring skills), listening and speaking skills of Chinese (i.e., subject-matter), and contextual aspects (such as personality and convenience). We investigate if these selection criteria are relevant for learners, when they first have the opportunity to interact with different peers. Second, we investigate learners’ perception of the interaction process with their self-selected peers as well as compare differences in the interaction process between self-selected peers and randomly assigned peers. Based on these two purposes, we intend to answer the following research questions:

1. How do students find their peers for a collaborative task?
2. How do students perceive the peer learning process with self-selected peers?
3. Are there differences in students’ perceptions and performance between working with self-selected peers and with randomly assigned peers?

Method

Participants

Participants were two classes of students in the course Chinese for Beginners at a University in the Netherlands. This course is an elective course targeted at all university students, staff and a limited number of external participants (i.e. non-university students). 47 students had enrolled in this course, but due to a high drop-out rate only 24 students actually participated in this study. There are thirteen lectures in total. During the first lecture, all students were asked to fill in an online questionnaire to gather their personal information (e.g., age, gender, subject, and education level), self-reported ratings of prior knowledge level of Chinese and teaching-related experience. The age range of the participants was 19-45 ($M = 24$), including 13 (54%) men and 11 (46%) women. The participants were divided over fifteen different subjects, with eighteen (75%) participants studying in bachelor programs, 7 (29%) in (pre-) master ones and one lawyer. Six (25%) students indicated that they had learned a little Chinese before. Four students indicated extensive teaching-related experience with scores eight to ten on a 10-point rating scale.

Setting

This study was part of the compulsory speaking assessment that counted for 15% of the final grade of this course. This assessment took place in the thirteenth (i.e., final) lecture. There were two rounds of this assessment and students had to work in pairs with two different peers. In the first round, learners were paired with *self-selected peers* and in the second round, they were paired with *randomly assigned peers*. For each round, students first had to create their own dialogues and then perform them in Chinese.

Materials

Students received assessment instructions consisting of the assessment procedure, a list of learned sentence patterns and qualitative aspects of spoken language use based on the Common European Framework of Reference for Languages (Council of Europe, 2001).

A questionnaire of choices was used to match students with self-selected peers. Students first recalled the classmates they worked with during the past six lectures, indicated three possible choices of partners and the criteria on which they made their choice: peer monitoring, tutoring, Chinese speaking and listening skills, personality, convenience, and others, which they needed to specify.

A post questionnaire consisting of twenty 10-point semantic differential items was designed to investigate how students perceived different processes in this study: eight items dealt with their perception of the peer learning process with their self-selected peers (Table 2), six items dealt with their perception of the first round of the assessment process, with self-selected peers (Table 3) and six items dealt with their perception of the second round of the assessment process, with randomly assigned peers.

Procedure

During the first lecture, the teacher informed students that the peer learning approach was applied in this course (students needed to work in pairs to practice Chinese) and she presented two important skills of peer learning, i.e. peer monitoring and peer tutoring. From the 2nd to 7th lecture, the teacher arranged the seats in such a way that students worked with *different* classmates in each lecture. During these lectures, the students rated their partner's peer monitoring, tutoring, Chinese speaking and listening skills.

During the 8th lecture, the teacher announced the speaking assessment and explained the assessment procedure. To match students with self-selected peers, students first filled in the questionnaire of choices which investigated their interaction experiences with different classmates in the past six weeks. The students were then matched with one peer they indicated in the questionnaire of choices based on two principles: either a) two students were in each other's three choices, or b) at least one student was in the other's three choices. The teacher informed the matchmaking results during the 9th lecture. Then students started to prepare for the first round with their self-selected peers. The randomly assigned peers for the second round were decided on the date of speaking assessment: students were randomly matched by picking up name cards from a bag that the teacher prepared in advance. After they knew who their partners were, each pair had fifty minutes to practice with each other for the immediate speaking assessment. After two rounds of the speaking assessment, students had 20 minutes to fill in the post questionnaire.

Results

How do learners find their peers for a collaborative task?

On average, students could recall 4.5 names of the partners they interacted with before. Three students left this recall blank. We examined whether the choices they made were also the partners they interacted with before by counting the number of names of each choice that were also in the recall list. Most of the students (88%) chose partners from peers they had interacted with before. The three choices were further transformed into scores for each student who was indicated in these choices: three points were assigned to those who were

indicated as the first choice by others, two points for the second choice, and one point for the third choice. The peer ratings on four skills (i.e., peer tutoring, peer monitoring, Chinese speaking and listening skills) were averaged into mean scores. The Pearson's correlation coefficient showed a strong relationship between the scores of choices and the mean scores of four skills, $r(22) = .50$, $p < .05$. That is, students who scored high on the four skills were also chosen more often as peers.

Table 1 shows the frequencies of each criterion used for each choice. Students considered both peer learning and language skills when making choices. In addition, the criteria of peer learning skills seemed to be more important than language skills. Note that participants indicated that the personality of their peer partners was as important as (or even more important than) peer learning and Chinese language skills.

	1 st choice	2 nd choice	3 rd choice	total
His/her peer tutoring skills	13	10	7	30
His/her peer monitoring skills	10	10	10	30
His/her Chinese speaking skills	13	8	9	30
His/her Chinese listening skills	9	7	10	26
Personality	12	11	7	30
Convenience	4	1	0	5
Others	5	2	2	9

Table 1: Frequencies of selection criteria used

How do learners perceive the peer learning process with self-selected peers?

Table 2 gives the mean rating scores of students' perception of the peer learning process. With self-selected peers, students' average ratings for peer learning and language skills were towards satisfactory (ranging from $M = 8.46$, $SD = 1.18$ to $M = 8.58$, $SD = 1.18$). Most students were satisfied with the preparation process ($M = 8.63$) and most of the self-selected peers met their expectation ($M = 8.79$, $SD = 1.22$). However, the mean ratings of importance of self-selecting peers ($M = 6.13$, $SD = 2.96$) and the perceived amount of learning from self-selected peers ($M = 7.50$, $SD = 1.72$) were a little bit lower than other questions.

	<i>M</i>	<i>SD</i>
1. Is it important for you that you could make 3 choices of your partners for doing this assessment? (1: not important; 10: important)	6.13	2.96
2. Are you satisfied with his/her peer tutoring skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.46	1.18
3. Are you satisfied with his/her peer monitoring skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.46	1.18
4. Are you satisfied with his/her speaking skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.46	1.28
5. Are you satisfied with his/her listening skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.58	1.18
6. Are you satisfied with the preparation process? (1: unsatisfied; 10: satisfied)	8.63	1.10
7. Did your peer meet your expectation of being collaborative during the preparation process? (1: disagree; 10: agree)	8.79	1.22
8. In general, how much did you learn from your peer during the preparation process? (1: little; 10: much)	7.50	1.72

Table 2: Descriptive statistics of students' perceptions of the peer learning process with self-selected peers

Are there differences in students' perceptions and performance between working with self-selected peers and with randomly assigned peers?

Table 3 shows that the mean ratings of students' perceptions of the self-selected peers were higher than those of the randomly assigned peers during the assessment interaction. Non-parametric Wilcoxon matched pair signed rank tests were used to compare means. With self-selected peers, participants are more satisfied with the interaction during assessment than when they were assigned with random-assigned peers, $z = -2.23$, $p = .03$. With self-selected peers, participants are more satisfied with their *own* speaking skills during

assessment than when they were assigned to random peers, $z = -2.41$, $p = .02$. With self-selected peers, participants are more satisfied with their *own* listening skills during assessment than when they were assigned to random peers, $z = -2.44$, $p = .02$. No significant differences were found in satisfaction with their peers' speaking and listening skills and perceived tension during the assessment.

Students' performance on each round of assessment was scored by the teacher based on the qualitative aspects of spoken language use based on the Common European Framework (Council of Europe, 2001). The maximum score of each round was 15 points. Dependent t -test was used to compare performance scores on two rounds. No significant difference was found in students' speaking performance between self-selected peers ($M = 12.74$, $SE = .36$) and randomly assigned peers ($M = 12.74$, $SE = .39$), $t(23) = .06$, $p = .96$.

	types of peers	<i>M</i>	<i>SD</i>
Satisfaction with interaction (1: unsatisfied; 10: satisfied)	self-selected peer	8,50	1,14
	randomly assigned peer	7,96	1,33
Satisfaction with your peer's speaking skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,50	1,06
	randomly assigned peer	8,30	1,19
Satisfaction with your peer's listening skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,75	0,99
	randomly assigned peer	8,52	1,20
Satisfaction with your own speaking skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,13	1,62
	randomly assigned peer	7,30	1,49
Satisfaction with your own listening skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,38	0,97
	randomly assigned peer	7,48	1,81
Perceived tension during the assessment (1: nervous; 10: relaxed)	self-selected peer	7,08	2,34
	randomly assigned peer	7,04	2,18

Table 3: Descriptive statistics of students' perceptions with two types of peer during the speaking assessment

Conclusion and discussion

To explore how students chose their peers to work on a collaborative assessment, this study was set up in such a way that students first had the opportunity to interact with others and only then had to make a choice of peer. The peer learning process and assessment interaction was investigated. The results show that students chose partners from the classmates they interacted in the previous lectures. They considered language skills, peer learning skills and personality when making these choices and they were satisfied with self-selected peers. Compared to randomly assigned peers, students were more satisfied with self-selected peers during the assessment task. These findings partly support the claim made by Roscoe and Chi (2007) that giving learners autonomy leads to success in peer learning. Also, they align with the findings of peer learning studies that both language skills (subject-matter ability) and peer learning skills (process-facilitation) are important for an effective peer learning process (De Grave et al., 1999; Moust & Schmidt, 1995; Schmidt et al., 1993).

However, students did not regard the importance of making choices as highly as was claimed by Roscoe and Chi (2007). One possible explanation is that they made three choices but they knew that the teacher might not assign them according to their first choice. Unfortunately this was not possible, since some students were chosen more frequently than others. Moreover, a few students dropped out between the 9th and 13th week after the pairs were created. Some students were thus matched with others who were not in their three choices. These situations might have influenced their perception of the importance of self-selected peers. Nevertheless, they did like self-selected peers more than randomly assigned ones.

The amount of what students have learned with self-selected peers was moderate. This might have resulted from the assessment design, because the assessment instructions which students received included a list of Chinese sentences. It was likely that students simply consulted this list instead of asking help from their peers, thereby possibly diminishing the opportunity for learning from each other. As for their perceptions of the assessment interaction, students with self-selected peers were almost as nervous and/or relaxed as with random-assigned peers. This might be due to the fact that students always experience a certain level of tension during performance-based assessments no matter who their peer is.

Regarding students' perceptions of their peers' language skills and their performance, no significant differences were found between two types of peers. One possible explanation for these results might be a mixing effect between these two types of peers. Some of the randomly assigned peers (i.e., for the second round) were *coincidentally* in the three choices

which students made, since we did not remove the three choices made by each student when matching them randomly. Thus, some randomly assigned peers were in fact the same as self-selected peers. Another explanation might be a practice effect, caused by using the design of repeated measures. The same students participated in two rounds of the assessment and the performance of the second round might be influenced by the experience of the first round. Thus, these results need to be interpreted with caution.

Finally, three limitations need to be considered. First, the findings of this study might not be transferable to other contexts since the number of students was relatively small. Second, the selection criteria for the students' choices were restricted based on the findings of peer learning, tutoring and collaborative learning studies. However, it should be interesting to investigate other factors that might influence students' choices such as gender or interests (Prinsen, Volman, & Terwel, 2007). Thirdly, the amount of time which students with self-selected peers spent was not recorded. This might weaken the comparisons in performance between working with self-selected and randomly assigned peers. To further investigate the effects of different types of matchmaking, future studies should implement such comparisons in a more controlled experimental setting.

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Exploring 'academic depth' in Higher Education

A collaborative evaluation of a visual method for facilitating information discernment for HE students from varied disciplines

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Abstract

Information discernment is an important skill that is part of studying in Higher Education, although it often seems that students might not be aware of this crucial part of academic practice. This paper presents the evaluation of a visual method for introducing students to the provenance of secondary sources, using the metaphor of sea creatures living in an academic ocean. The same resources were used as a starting point for sessions delivered to a number of programmes in different disciplines in three different HE institutions in the UK at different academic levels. The findings discussed here introduce the different perspectives of the tutors who led the sessions, providing an insight into potential challenges and opportunities of using this visual concept to introduce academic practice to students in art, media and design, communication and public relations, education, as well as international students. The conclusions drawn from this episodic overview show that while there was some polarisation, overall a visual approach seemed to have potential in assisting students in building their academic literacy skills. Furthermore, it was the facilitation of a discussion of provenances of sources that seems most important in this endeavour.

Key words: academic literacy, information discernment, information literacy, source evaluation, study skills

Introduction

Establishing a provenance for research sources is one of the most fundamental academic practices. Unfortunately it is also one that often gets neglected by students, especially in a world where information is as easy to come by as typing a question into a search engine (Julien et al, 2013). The vetting of this information is seldom given a second thought (Case, 2012). While this problematic is often addressed in introductory courses/modules/units in Higher Education, it seems to be difficult to get novice researchers to internalise this practice (Hepworth & Walton, 2009).

This paper reports on a visual concept developed to let students analyse academic secondary sources in order to build their understanding of what types of sources might be suitable to utilise in their own specific context. Using different types of sea creatures living at different academic depths in an ocean of publications as an analogy, the 'Fishscale of Academicness' is a teaching intervention that introduces highly visual images (in form of a Prezi, available as illustration to a lecture and a stand-alone for a virtual learning environment) into the classroom as well as simple design and ranking activities. While the details of this concept are shared and discussed elsewhere (see Gröppel-Wegener, 2015 for the presentations themselves; see Gröppel-Wegener and Walton 2013 for a theoretical analysis of how this concept works), this paper aims to provide an overview of how it works in practice. While the Fishscale was originally developed for an arts, media and design context specifically for Level 4 (first year undergraduate) students, it has since been tested in a number of disciplinary contexts and at different academic levels.

The main sections of this paper have been contributed by the tutors that have taken part in the initial testing, providing different perspectives on the use of the Fishscale concept in various types of classrooms and encompassing a number of disciplines. Alke Gröppel-Wegener, Senior Lecturer teaching study skills to Level 4 art and design students at Staffordshire University, set up the context via the Background and Methods section, as well as the section discussing the Fishscale in an art, media and design context. The section dealing with the responses of Level 7 trainee primary school teachers was contributed by Katy Vigurs, Senior Lecturer at Staffordshire University. Geoff Walton, Lecturer in Information Sciences at Northumbria University, provided the section on how Level 6 communication and public relations students worked with the Fishscale. Plymouth University's Helen Bowstead, Lecturer in English as a Foreign Language, focused on the ways international students could be helped by visual presentations. Finally, Lesley Raven, a doctorate researcher based at Staffordshire University who worked as assistant researcher and data-handler on this project, contributed the conclusion.

Background

The Fishscale of Academicness was inspired by a presentation by Claire Penketh (Beaumont and Penketh, 2010). Speaking about introducing her classes to reading at degree level, Penketh explained how she asked her students to reflect on the different types of sources – and genre – that each individual was confronted with each week by first making a simple list of the types of writing they had encountered within the last week, and then proceeded to talk about the differences. Taking her cue from John Bean (2001), who suggests that learning to read at degree level is like learning to fish in deep waters, she illustrated this with images of fish – a goldfish to show an email, an angler fish for a really obscure piece of writing.

Based on this starting point, Alke Gröppel-Wegener developed 'The Fishscale of Academicness', as a visual way of explaining to her students (from first year art, design and media disciplines) that secondary sources are not just about their content, but that there are different types of sources available and that these vary in their appropriateness as references for an academic research essay. Its current version is a pack of resources: two presentation in Prezi format (one to provide illustrations to a lecture, one with more text to become a self-explanatory stand-alone resource that could be linked to a Virtual Learning Environment), a black and white booklet that can be printed and easily copied, as well as a colour copy of the booklet that can be ordered at cost through a print-on-demand service.

Initial testing indicated that it was the included activities, though, that were more effective than simply introducing the concept through an illustrated lecture (Gröppel-Wegener, 2013). While the illustration and the analogy as such were a colourful and fun way to introduce the concept of provenance of secondary sources, it was really the two linked activities that seemed to make a difference in students' work, giving them a chance to try and establish the provenance of sources on their own.

The Fishscale includes two activities, incorporated into the lecture with prompts. The first one comes after the concept of visualising sources as sea creatures is introduced. Here small groups of students are asked to design the sea creature of a sample source, and to provide a rationale of why they chose this particular sea creature. Students are provided with a handout (Figure 1) into which to draw the sea creatures, which has spaces for a written rationale as to why these specific sea creatures have been chosen. The second activity comes after the concept of the depth of the academic ocean is introduced, now students are asked to identify how deep their sample sources would live, again students are provided with a handout (Figure 2) showing an elevation of the 'academic ocean', where they are encouraged to mark the place where 'their' sources would be at home. This determination is then shared in a class discussion, where each group explains first their designs to the whole class and then all the sample sources are ranked from most shallow to deepest.

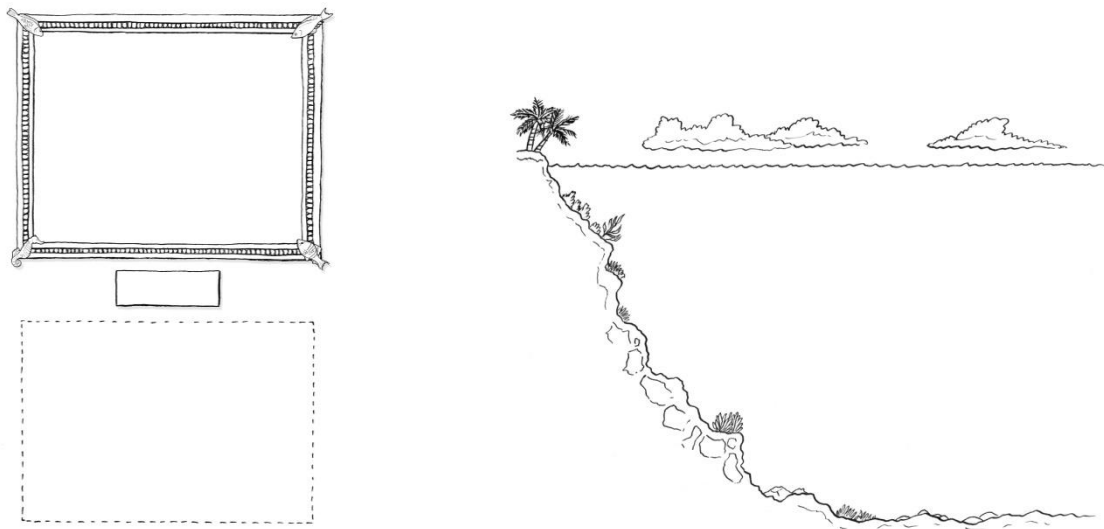


Figure 1 and 2: handouts used for the Fishscale activities

Towards the end of the lecture there is another activity that asks students to reflect on what the assignment they are working towards should look like as a sea creature. There was no specific handout provided for this.

As mentioned above, initial informal testing suggested that students from art, design and media classes made better use of academic sources after the lecture had been introduced with the activities. The question now was whether this could be proven in a more formal context - and whether results would vary between different disciplines and academic levels, which is what the research presented here aims to explore.

Methods

Using the resources as they had been developed, the objective was to test student understanding of the concept of provenance – and to see whether that understanding changed measurably after the lecture and activities. Consequently three questionnaires were developed, one to be filled out before the lecture (Q1), one immediately after (Q2), and one that could be filled in later on in the term, if that was appropriate or possible with the student group (Q3).

The questionnaires tracked reading habits as well as asked after the understanding of research through different modes and types of sources. Q1 particularly focused on the way students interacted with both analogue and digital literature sources, asking participants to rate the frequency in which they accessed 12 different types of sources. This was backed up

by some open ended questions asking to identify methods for sourcing and the usefulness of the literature in the context of specifically academic research. Q2 asked particularly about the lecture and activities, trying to identify what the students' attitude to this kind of delivery method and activities were. This was done through a mixture of qualitative questions and some Likert scale ratings. Q3 included the questions from Q1 in order to ascertain whether a change had taken place, as well as questions trying to measure what students remembered about the lecture and activities, and to make a judgement of this as a practice to support academic course work.

Overall four tutors tested the Fishscale with appropriate student groups at three universities (Staffordshire University, Northumbria University and Plymouth University). 216 students took part in the survey. Student groups ranged from Levels 4 (first year undergraduates) to 7 (post-graduate students), and were from different disciplines.

The Fishscale in practice

Testing of the Fishscale took place in the academic year 2013/14. In the following sections, each tutor presents their perspective on how the Fishscale worked with their students. While the core concept and resources used were the same, depending on the context of the sessions there were slight differences to the delivery. For example, the length of the sessions could vary, the technology available to deliver it, whether all the activities took place, whether all three questionnaires could be administered or maybe only two, as well as what sample sources were used and whether they were provided by the tutors or the students themselves.

The following sections contain the perspectives of the tutors that were conducting the sessions, and they include a short explanation of how the delivery of the session differed.

Searching for the 'sholfin' - The Fishscale in an art, media and design context

I developed the Fishscale approach because I realised that the establishing of the provenance of secondary sources is a part of academic practice that is essentially hidden to students. Yes, they are possibly made aware of the fact that some sources are better than others, but their work does not show that they acted on this. Yet it is a practice that is crucial to any researcher, even a novice one. The challenge as I saw it is therefore to make this practice visible, to turn it from something abstract into something concrete for the students to experience: activities that make the students go through the motions of analysing the type of a secondary source at least once in class, so they get a better idea of what it is we are expecting them to do.

At Staffordshire University, 165 first year students took part in the testing of the Fishscale, organised into seven different groups of students. Here the disciplines were Animation (17), Comic and Cartoon Arts (17), Film/Media Production (39), Fine Art (26), Graphic Design and Illustration (21), Photography and Photojournalism (28), as well as Surface Pattern and Textile Surface Design (17). The Fishscale session was part of a first term module for first year students which is designed as an introduction to academic practice, here the students learn how to write a degree level style research essay. Their assignment is to write a short essay (1000-2000 words depending on their discipline). Usually in the same session, before going into the Fishscale, I also introduce students to the Harvard system of referencing, so this follows a time of thinking about plagiarism and academic referencing.

The sources used as samples for the activities were taken from the same basic selection, representing leisure reading, the online presence of a reputable newspaper, Wikipedia, a magazine for creatives, a design book for the general public, two different peer-reviewed academic journals and a book geared towards academics, which was based on a PhD thesis. It was made clear to students that none of the sources were directly related to their studies, and that this was on purpose, as the aim of the session was to analyse the type of sources rather than make a determination of the value of the source based on the content.

While the feedback from students on the activity was predominantly positive, it was also extremely polarised. There were students who stated that they had found it incredibly helpful, while others described it as "pointless" and "a horrible idea". Overall the majority of the groups stated that it was helpful, apart from the Film/Media Production students, where an equal number of students responded with helpful/unhelpful and 'I don't know'. This was also the only group where the majority would not recommend the Fishscale concept to a friend.

(While there is not the space here for a proper analysis of the Film/Media Production group as an outlier, it might be worth noting that this was the largest group I taught, which might have made a difference in the delivery particularly of the activities, simply because it can take more time to deal with a large group than with a smaller one. This was also the only session where I had technical problems, with the Prezi freezing on the third slide, so I got them to design their response to the sources early in order to give students something to do while I was rebooting the computer and internet connection.)

Mostly the qualitative comments indicated that students had understood the concept. However, students tended to be more positive about the concept and activities in Q2 (delivered immediately after the session) than in Q3 (delivered between one and several weeks later, depending on how often I saw the classes). There was a clear indication in some of the comments that students had not only understood the concept, but had also been able to transfer the rationale behind it into their own research practice, for example

one student stated that s/he before “most of the time would look for first site, now I search for suitable sources.”

What I find most interesting about the data collected are the images that were produced by the students during the activities. In the sessions 65 images of sea creatures representing sources were drawn by students. These range from very basic doodles of fish to fairly elaborate sea creatures sporting anthropomorphising accessories (such as handbags for the leisure magazine or top hats and monocles for peer-reviewed journals). These images show that students clearly grasp the concept of provenance and are able to accurately analyse sources they come across for their academic value. (Indeed in the ranking exercises with the groups I only came across one single instance where the students decided on a completely inappropriate depth, which after probing turned out to be because they were focused not on academic relevance but on relevance of content for their own specific discipline.)

In a way the Fishscale activities are built around the idea of turning the establishing of the academic provenance of sources into a design activity. Drawing the sea creatures produces a physical outcome, which gives students a different sense of ownership than they would have if they were just discussing the sources. While it probably helps that this is highly visual, particularly with these kinds of learners who predominantly identify as being visual to at least some degree, it is the activity that is important.

That is why it is disappointing that this concept seems to be judged as childish by some students. The visuals of the presentation are purposefully done in the style of a children’s book, in order to be non-threatening – both in the context of what is discussed (as academic sources can be quite intimidating to first year students) and in the context of them producing their own artwork, something a lot of them feel shy about, as evidence by a lot of the students murmuring things like “but I don’t draw” when asked to design a sea creature.

The metaphor of sea creatures has the potential to make it easier for students to interact with academic sources as it provides a way of describing them, as the proper terminology for analysing the provenance of secondary sources might still lack at this stage in the students’ academic career. It is this transfer of terminology that potentially empowers students to make academic research conventions their own, as demonstrated by the animation student who commented in one of the questionnaires not only on the characteristics of valuable academic sources, but also on the characteristics of the essay to be produced: “Good source/essay should be friendly like a dolphin but have qualities of the shark and made a sholphin hybrid.” This newly discovered sea creature, the sholphin, is an excellent explanation of what the establishing of a provenance is about, and how the lessons learned from looking at academic sources should be applied to the academic writing produced.

'Sorting literature in an imaginative way' - The Fishscale in an education context

When I was first introduced to the Fishscale of Academicness concept, it resonated strongly with the academic development work that I find myself practicing with postgraduate students on a daily basis. I was attracted to the visual metaphors and the ease with which they communicate the purpose and process of conducting source evaluation, which sometimes feels like an abstract and 'dry' concept to teach. I thought the Fishscale Prezi and booklet had a children's book feel about them and wondered how trainee primary school teachers would respond to the Fishscale workshop.

Thus, I conducted the Fishscale with 35, full time, Level 7 (postgraduate) students who were all training to become primary school teachers through a one-year PGCE programme at Staffordshire University during 2013-14. The programme involves both study at the university, including traditional written assignments, and teaching practice placements in schools. The students on the course are required to engage critically with published educational research literature in order to develop their knowledge and understanding of pedagogy and curriculum development and to assist them to reflect upon their own teaching practice. It is important to note that although I am a Senior Lecturer in the School of Education, I am not a tutor on this PGCE programme. Thus, the students had never worked with me before. However, the PGCE tutors welcomed the idea of the Fishscale workshop being conducted with their group as they had come to the conclusion that spending time in class discussing and identifying study skills was important for the academic development of the PGCE students.

What I observed on meeting the group of trainee teachers was a variety of levels of experience and confidence in relation to academic reading and writing. This was borne out by the questionnaire responses and may have had some bearing on the participants' responses to the Fishscale activities. For example, those that perceived themselves to be confident and proficient at academic reading and writing seemed to find the activities 'a bit trivial and patronising'. Whereas those who disclosed finding academic reading 'tricky' and having experienced difficulty when using published literature in their assignments, seemed to find the activities and approach useful to developing their understanding and thought that it would likely improve their reading and writing practices. Unfortunately, I was only able to carry out Q1 and Q2 with the PGCE group. Without the results from Q3 it is difficult to ascertain the impact of the Fishscale on the group over time. However, the data generated from Q1 and Q2 suggest that the Fishscale activity was positively received by those who were less confident about enacting academic study skills.

Prior to conducting the Fishscale activity, twenty-two participants said they found reading for academic purposes difficult and the same twenty-two said that they found it difficult to use published literature effectively in written assignments. Immediately after the Fishscale

activity, seventeen said that being introduced to the Fishscale had helped them to consider how different types of sources can be academically useful in different ways; thirteen said that they thought the Fishscale should be taught in class sessions; and fourteen said they would recommend it as a helpful resource to other students. The experiences of this group are explored in more detail below.

As intimated above, this group of PGCE students completed Q1 before experiencing the Fishscale workshop. They then were introduced to the Fishscale using the full Prezi and some of the supporting activities (so they looked at a range of sample sources that I had selected for the group and then represented each sample as a sea creature). Then they were asked to complete Q2 to capture their experiences of and responses to the Fishscale workshop and resources. This was not a wholly straightforward process. The Prezi itself took a long time to load due to the quality of the Internet connection available in the location for the workshop. This put additional time pressure on the workshop, which meant that it was not possible to complete some of the set activities. For example, we were unable to faithfully conduct the activity where sources as sea creatures are placed at different academic depths, although we did discuss the concept during the Prezi. We also were not able to complete the group activity that asked them to imagine their assignment as a sea creature.

Seventeen of the group said that they found the act of visualising different sources as types of sea creatures to be helpful. Positive responses included:

'Very useful and allows you to sort literature in an imaginative way.'

'Very good... I liked the idea of fishing for information.'

'Lovely clear theory. Helps to think about what features to look for.'

'Good analogy that gives you a clearer idea of what texts to use and how to assess them.'

'It was useful thinking about sources in terms of depth and type.'

Some of the students highlighted that it was the *purpose* of the activity that was useful, i.e. increasing awareness of and approaches to the critical handling of texts. Others outlined that the visual metaphors *themselves* were valuable in developing their knowledge and understanding of the concept of information discernment and how to apply this in academic practice. However, not all participants found this activity to be useful. For example, other respondents stated: 'It was a good concept but I am unsure I will think about it when physically reading for assignments', 'I thought it was a good idea, but it didn't work for me'.

Thus, even though some participants liked and understood the concept of the Fishscale, they were unsure that it would be useful to them in their own academic practice and development. Other participants had more negative responses: 'Too much time spent on it for little information' and 'It's a bit silly'. As mentioned earlier, analysis of the questionnaires suggests that the students who had the negative responses to the Fishscale were those who felt they already had high levels of knowledge and understanding about information discernment and how to practice it. They felt that the workshop was a waste of their time, although we do not have data to support that their levels of confidence matched their levels of achievement in module assessments. This would be interesting to explore in future research.

Sixteen participants said they found the group activity to design a sea creature based on sample sources to be a useful exercise. It was described as being 'fun and thought-provoking' and allowed them 'to think about literature from different angles'. Others noted that 'it encouraged discussion with fellow students who gave good advice on how to approach reading academic journals' and one other commented that 'we saw how other people in the group look at texts, this made me think'. This collaborative activity was seen by some as helpful because it facilitated discussion between students with different levels of experience and confidence, which aided reflection on students' past practice of information discernment. This point is interesting because although thirteen of the group felt that the workshop was not useful for them as individuals, the knowledge and experience of academic reading and writing, and their higher levels of confidence at such practices, that they brought to the Fishscale activities was seen as helpful by the less confident students.

Eighteen participants said that they might think about sources as different types of sea creatures in the future. In terms of what participants found to be most helpful, responses to a question about 'lessons learned' included:

'That visualisation and analogy makes the analysis of sources accessible'

'How some sources are better but how you need to use a variety of types'

'visualising the depth of reading and writing that is needed'

'Useful for people who are unclear about what sources to look for or how to search'

'Good introduction to considering academic sources'

Such responses suggest that over half the group found the Fishscale workshop to be valuable in developing their knowledge of and future approaches to information discernment.

The responses to the question on Q2 that asked participants to comment on why some sources were referred to as sharks in the Prezi were quite enlightening as there were two main responses: The first was that such sources have 'more teeth', meaning that they may contain more valuable and useful information 'even though they may look scary at first glance'. Students who identified themselves as having higher levels of ability and confidence when it comes to information discernment saw the 'sharks' as 'important, strong sources', because they 'can be useful and deep' even though they may 'need to be used with caution'. These students understood that sources depicted as 'sharks' can be very valuable when writing an academic assignment. However, the second, alternative response by other participants was that such sources are currently experienced as academically off-putting, as illustrated by the following comments:

'They are dangerous and can be overwhelming'

'Scary - unapproachable'

'They will harm more than help'

'Dangerous - need to be wary of them'

'Because you wouldn't touch it - too heavy, a bit daunting'

'Because some sources can be difficult and scary to use, so make you nervous and scared.'

Such responses seemed to communicate the fear that some students experience when working with a range of academic sources. This is a point that tutors might benefit from knowing. For example, that even if students have a first degree, there may be over half the group that still lack confidence when using academic sources.

My testing and evaluation of the Fishscale workshop has led me to a couple of tentative conclusions. Firstly, having conducted the Fishscale with this mixed group of postgraduate students, it could be particularly useful as an 'opt-in' workshop for students who feel they need additional support to develop their academic reading and writing skills. However, the challenge with an 'opt-in' only workshop would be that the less confident students would not benefit from discussing ideas with those with more experience of and confidence in conducting information discernment, who would likely choose to opt-out if given the chance. Secondly, I would be interested in seeing the Fishscale developed into a professional development activity for university lecturers so that they can start to reflect upon how they support their students to develop their approaches to source evaluation and information discernment.

'Different Fish have Different Character[s]' - The Fishscale in a communication context

For many years I have tried a variety of ways to enable students to think critically about the information they use, whether that be a peer-reviewed article or a webpage, for their assignments. Some have worked better than others for example using online discussion boards to enable students to agree on a set of evaluation criteria for web-based information worked well. There are three things in particular that I like about the Fishscale approach: firstly, it is highly visual and novel which tends to engage learners in an immediate way and causes a strong reaction even if that is negative rather than positive (our real enemy is indifference); secondly, the 'depth' metaphor is accessible and fits very well with the way we describe information for example, 'deep', 'hidden depths' or 'shallow'; finally, the fish themselves, especially the sharks and the way that this marries up with the common metaphor of something that is strong in nature for example, an argument or legislation as 'having teeth'.

To test out this new technique I conducted one research project with 17 Level 6 (final year undergraduate) Communication & Public Relations students at Northumbria University. The module is entitled 'Texts and Contexts' and is focussed on critically analysing text, mainly written but some visual material also, especially infographics and propaganda posters and leaflets (both contemporary and historical).

The students were given Q1 to complete and then the Prezi was shown with additional commentary from the tutor. They were then given the handouts (illustrated in Figure 1 above) in order to help visualise their chosen resources. For the purposes of this exercise students were told to explore sources they had used for their most recent assignment.

It was clear from the initial responses during the presentation that most students were amused and quite interested in the whole idea. They very clearly liked the images in the presentation as several commented on their quality and style. To determine whether this approach had made any lasting difference to their approach to information discernment, Q2 was administered approximately 8 weeks after Q1 and responses recorded. What I was particularly interested in was whether the presentation had encouraged students to think differently about information sources and secondly whether that made a difference to their information discernment defined as, *the ability to use higher order thinking skills in order to make sound and complex judgements regarding a range of text-based materials* (Walton & Hepworth, 2013, p55). Therefore the focus of this discussion is on Q2 responses.

My attention was drawn specifically to the qualitative comments that students had made. Whilst some comments were rather terse others provided a rich insight into students

thinking about the Fishscale approach. In this initial sweep of the data, the broadly positive and negative comments were grouped together. It must be noted that there was, in fact, only one negative comment found throughout all the responses. This may be due to the researcher being present though the students were asked to be as honest and critical in their responses as possible.

Some students clearly found the Fishscale approach a useful way of thinking about information, 'It make (sic) me reflect on the attributes of the sources which I haven't thought about before'. This indicates that the student had realised that perhaps he/she was using a limited set of criteria ('attributes') for making judgements about information they would use. This act of reflection demonstrates, at least for this student, that it had triggered a reflective response leading to deeper learning. Another student commented that the Prezi, 'Make (sic) me look at how good sources are and what to look for in the future'. This shows that this student has been sensitised to issues of information discernment (Walton & Hepworth, 2013), that some sources are better than others, and that there is, an intention at least, to be more aware of quality issues when using information in the future. A different student noted that the Fishscale Prezi, 'Breaks down information sources'. This indicates that the presentation might alert students to the different categories of information available that they had not thought about hitherto. This is an important point as there is a great deal of anecdotal evidence from librarians that students have an inability to tell the difference between peer-reviewed journal articles and other information sources - especially on the world wide web. It appears that the Fishscale enables students to disaggregate sources into different information types. There is also an allusion to how the Fishscale might assist memory in this comment, 'Different fish have different character (sic). Remember more'.

This last comment indicates that the concept actually promotes critical thinking, at least to some degree, 'It makes you think about the sources you have used and just how good they are or bad they are'. It is a little disquieting that students at Level 6 were not thinking about the quality of information hitherto. This perhaps more than anything else very strikingly shows the need for this kind of approach to enhance academic study.

Some students could see the inherent metaphor and the connection between sea and information for example, 'Because it links well to the shallowness/depth of information etc' and 'Because they were more in-depth books that contain a lot of information-not to(o) clear', which demonstrate the usefulness of visual metaphor in this pedagogical context. Comments on the 'shark' metaphor were again illuminating, and highlighted how students bought into the concept for example, 'Because they were sources you could get your teeth into. They were the top sources > top of the food chain' and 'Because they have a lot of facts (teeth) and are very serious'. It is interesting how the 'teeth' metaphor has been envisaged in two slightly different ways, both conveying the idea that the information is of good quality.

The style of the images presented seemed to have a positive effect, especially that they were non-threatening in appearance for example, 'Bright + friendly are -images including helpful info'; 'I like the bright and friendly one as it made me re-evaluate some of my resources' and 'I like the bright and friendly fish as it relates to me and how I learn and engage - visuals'. For some, the presentation created a positive affective state which is important in enabling learning (Walton & Hepworth, 2011) and also appeared to encourage students to reflect upon the resources they had chosen. This indicates that students may have been engaging in some metacognitive thinking, an additional enhancement to the process of becoming information literate (Walton & Hepworth, 2011).

There was very little critical or negative comment about the concept. The only negative comment was one of detail, 'I found it quite hard to focus a text down to one sea creature'. This may be down to a simple lack of practice or, it may indicate a more serious issue that some learners do not engage well with visual materials and prefer more text-based approaches.

This is a positive outcome, the students genuinely enjoyed working with the imagery and could see how it assisted their thinking in making judgements about information sources. However, given that the students were in their final year, a greater level of underlying information may have been expected of them. This, perhaps, underlines the need for the Fishscale approach to be adopted and adapted more widely as part of an eclectic pedagogy for information discernment used in tandem with other activities and tools.

Drowning not waving - The Fishscale in an international students context

As a lecturer in English for Academic Purposes, I teach international students across a range of stages and programmes, and because accessing written texts is often so problematic for students operating in an additional language, using visual representations to make sense of the need to establish academic provenance seemed to me to have huge value and potential. Though many of the students I work with struggle with reading, I have particularly noticed the intense difficulties many Chinese learners seem to face when asked to identify and make sense of an 'academic' text. Though their approach to reading is often meticulous and methodical, when they are done, their levels of comprehension often remain very, very low.

When students face challenges that overwhelm them, they find ways to overcome, circumvent or ignore them. Students with poor language skills (even if they are expert readers in the own language) often drown in the seas of academic reading. When the very act of reading itself is so problematic, how then do you address the need not only to engage in reading, but also to read the 'right' kinds of texts and sources? Time and again, international students fall foul of university expectations regarding the (appropriate) use of

(appropriate) sources. In class, I try to highlight the need to read and reference the 'right' kind of sources, but 'right' is a tricky concept when any and every source is a battleground. Faced with a tidal wave of impenetrable literature, who wouldn't take the easier option and choose the text that offers up its meaning most simply and conveniently?

I decided to trial the Fishscale materials with a multidisciplinary group of international students enrolled on a stage two module in English for Academic Purposes. The majority of this particular cohort was Chinese (from the mainland and Hong Kong) and many of these were direct entry students from a local FE institution or a partner college that offers international students pathways into undergraduate study. In the first session, I used the Fishscale Prezi and talked through how the images might be a helpful way to think about the academic quality of sources and asked the group to complete the first questionnaire. In the follow up session the students were asked to bring along the sources that they were planning to use for an assessed small-scale research project. Anticipating that a significant number would not remember (or wish) to bring their own texts and sources, I also took along a number of online articles that represented a cross section of the top hits that came up when the search term 'effective language learner' was entered into google. The sources varied in academic quality, and included online guides to learning a language, unpublished papers and peer-reviewed journal articles. In the second session I asked the students to work in groups and plot a selection of these sources (including any of their own) according to the Fishscale handout (figure 2). Most of the students seemed to find this quite easy to do, and seemed to have a good idea of the textual clues that would identify a particular source as suitably 'academic'. The notable exception was the unpublished paper, which many students identified as being of equal academic value as the peer reviewed journal article.

I then invited the students to draw a visual representation of their own source (or one of the sources I had provided) and, while many did not engage well with this activity, a small number became unusually animated and produced some amazing drawings of the most fantastic sea creatures. Although the students found it difficult to articulate how these creatures represented the 'academic' quality of the source they had chosen, there was definitely a sense that 'something' was happening. Most interesting for me though, were the discussions that the activities generated around how the ability to spot a suitably 'academic' text did not necessarily translate into the use of such sources in the students' own work. When it came to the texts the students themselves had selected and brought to class, it was clear that many had chosen to bring whatever they came across first. I was intrigued by the fact that they did not seem to appreciate that the sources that rate most highly in terms of a number of internet hits, are unlikely to be the ones they should be using in their academic work. When I demonstrated this by showing what came up if the term 'what makes a good language learner?' was entered into google, they were surprised at how 'deep' within that

search the most suitably academic article they had looked at could be found. The students were then asked to complete Q2.

When I looked over the responses to the second questionnaire what struck me most was the way the students had engaged with the shark metaphor. Some of the students had clearly made a connection between the image of the shark and the difficulty of locating appropriate academic texts: *"Sharks live in the deep of the sea. Like the sources we find, if it's academic, it will be harder to find it"*, and others had responded to what the shark represented in terms of the levels of difficulty and risk associated with an academic text: [my favourite image is] *"the shark with teeth because some sources of [sic] good but really hard to read"*. However, what was also clear was that some students were likely to continue to judge a source's value on its accessibility and not its academic provenance: *"I tend to judge the sources according to what I understand"*. The responses to the second questionnaire were not expansive, eliciting comments and feedback from international students can be problematic if the language levels are low, however, the overall impression was that there had been a good level of engagement with the materials and in the end of year module feedback one particular comment stood out: *"All I remember is the fish"*.

Overall, I found the Fishscale experience both enjoyable and insightful, and I think there is much to explore in terms of how we communicate the requirements of the (UK) academic context to students who have diverse educational experiences and backgrounds. However, while the 'Fishscale of Academicness' certainly proved to be a useful means of helping international students gain a better understanding of how and where to find appropriate academic texts, for some issues around accessing and fully comprehending such texts is likely to remain a defining factor in their ability to establish a provenance for research sources.

Conclusion

This paper is a collaborative investigation into the effectiveness of the 'Fishscale of Academicness'. The strategy for investigation was developed by Alke Gröppel-Wegener and supported by the three contributing authors, who were all academics derived from UK Higher Education Institutions, each with vested interest in developing student abilities for engagement and articulation in academic practices. Each academic delivered the lecture-workshop to a different cohort of students from different disciplines and levels of study. This resulted in a broad sample of participants comprising undergraduates from all levels: first year Art, Design and Media (AD&M) courses, second year international students studying English for Academic Purpose (EAP) modules, third year Communication and Public Relations (C&PR) students and postgraduate Initial Teacher Trainers (ITT).

Due to the collaborative nature of this paper, the key findings and recommendations by each academic discipline have been identified within each section above. Similarities or differences from across the varied disciplines are discussed below and form a meta-analysis of the 'Fishscale'.

All of the student participants watched the Prezi and a majority participated in the associated tasks to visually depict the sources as sea creatures and to rank them using a scale of information discernment (from surface to deep) by locating the illustrated source on a cross-section of the ocean. Time limitations prevented the post-graduate cohort from undertaking the visual task to rank the sources and instead discussed this as a group; similarly a majority of the C&PR cohort did not participate in the visualisation tasks and instead contributed to group discussion, which weakens the potential usefulness of the fishscale as a visualisation tool, but lends support to it as a discursive, verbal articulation aid.

The potential usefulness of the 'Fishscale' methodology was sought from the student feedback questionnaires and triangulated by the academics' observations and recollections. All students completed Q1 and 2. Only some of the first year AD&M students completed Q3, which was conceptualised as an impact assessment. However, the third year C&PR cohort completed Q2 at 8 weeks post lecture-workshop, which contributed as an impact measurement but did not explicitly identify reflection upon learning as Q2 did address this aspect given that it sought immediate feedback. Within the analysis of the questionnaires by the AD&M students, it was noted that feedback immediately following activity participation was more positive than at some time later (between one and several weeks). This lends further support to the possibility that the 'Fishscale' was found most useful as a group intervention (lecture-workshop) and that independent adoption and utilisation is more tentative. However, a majority of the C&PR students rated the 'Fishscale' positively at 8 weeks post-workshop, which suggests useful application as both a group and independent strategy. Although this is a tentative supposition, as the C&PR cohort did not complete Q3 (to fully measure the impact of independent application) and did not fully participate in the visualisation activities. Further, the C&PR cohort had also been identified as having poor abilities for critical evaluation, which could increase the likelihood of accepting a strategy to support skill development, especially given their status as final year students approaching course completion.

To lend further attention to the level of study and ability of the students, the second year EAP student participants had the poorest levels of English language. Whilst identification of positive or negative feedback from these students was not made explicit, active engagement in the visualisation activities was noted to generate group interaction. The concept of the 'Fishscale' to enable group discussion was also noted within the post-graduate cohort. The abilities of this cohort were mixed, ranging from low to high self-perceptions and the

generation of group discussion was perceived to have beneficial possibilities for peer learning and articulation of critical thinking. From this it can be surmised that the 'Fishscale' Prezi and activities were useful to develop group discussions. Further consideration for the 'Fishscale' to influence independent practice was unidentified due to only the AD&M cohort completing Q3 and calls for further investigation.

Following initial overarching discussion above, of the perceived usefulness of the Fishscale from the student feedback and observed engagement with the activities, attention is now focused on specific aspects of the strategy:

The illustrated content of the Prezi (non-threatening images of sea-creatures) received mixed feedback: some of the AD&M cohort perceived the images as childish, whilst the C&PR cohort rated the images as having quality and facilitating amusement that fostered interest. Whilst negative reception of the illustrations by AD&M students is noteworthy, given the possible relevance of association with their discipline specialism, this could be refuted given that overall engagement with the Prezi suggests the images were not totally off-putting; that opinions are variable (not everyone will agree to like the same style) and the positive feedback by final year students who were studying a C&PR module that comprised analyses of other imagery (propaganda posters, info graphics etc.) lends qualification for C&PR cohort opinion to be warranted.

Further to the activity of visually depicting sea creatures being identified to foster group interaction, the physical outcomes (drawings) were notable for several reasons: qualitative analysis of the drawings within the AD&M section (description of the anthropomorphic accessories; the multiple) and varied interpretations of the shark by other disciplines, served to verify understanding of the provenance of literature sources, which lends support for the uses of visualisation and visual analysis to aid understanding of other complex, often difficult to articulate, issues to be further investigated.

Finally, attention should be given to information discernment. The AD&M students comprised a majority of the total study cohort and tended to rank the academic literature sources similarly, leading to suggestion that students do share an agreed taxonomy for academic literature sources. However, this was refuted by the international student cohort and highlighted the possible relevance of culture to inform academic practice. Although it is noteworthy that differences in ranking of academic sources may also be attributed to poor English language comprehension, and lends support for creative, collaborative and visual tools to aid developing academic practices to be further explored, particularly with students that require additional study support.

To conclude, given the diversities of the contributing academic disciplines and the skills for students' information discernment, both across year/levels of study and within individual cohorts, anomalies between student and discipline responses might be attributed to these differing characteristics, lending support for continuing investigations with greater specificity in order to verify initial findings. Similarities across student and discipline responses points to a universal collegiality and lend support for the possibility of future application with varied cohorts of learners from across differing academic disciplines, particularly as the tutor commentary suggests that the Fishscale served as a valuable starting point for the discussion of information discernment.

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Using a modified Delphi Method to develop a new advanced accreditation award ('Triple A') in money advice practice

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Abstract

Staffordshire University has delivered the Certificate of Credit in Money Advice Practice (CMAP) in partnership with the Institute of Money Advisers (IMA) and since 2010 and over 1000 money advisers across the United Kingdom have achieved the qualification (Wright et al., 2014). CMAP graduates and employers expressed a need for an advanced specialist accreditation module for experienced money advisers to build on the CMAP. A Delphi study, a consensus method for curriculum design, was carried out to support the new course development. Participants were 13 experts in Money Advice Practice, including CMAP graduates. Three rounds of the Delphi process were carried out and consensus was obtained on course structure and content of modules, assessment, communication & support, professional competencies & skills, fees & duration, entry criteria, induction and materials and benefits of the advanced accreditation. The Delphi technique proved successful in involving experts in the design of a new course. A Feedback/ Feed forward event was also carried out to aid the process and the course is currently being developed.

Keywords Delphi method, curriculum design, accreditation, consensus

Introduction

Over the last thirty years, the Delphi method has been successfully used in curriculum design and development (Fallon, 2006, Yousouf, 2007; Reeves & Januch, 1978; Boath et al., 1997) and was used in the current study to assist the development of the 'Triple A' Advanced Accreditation Award in Money Advice Practice.

The Delphi technique is a consensus method used to determine the extent of agreement on an issue (Vernon 2009). Weaver and Connolly (1988) recommend the Delphi method as a means of 'eliciting the recommendations of experts on the content of a meaningful and timely course of study for education and training'. The Delphi method is an interactive process between the researcher and 'experts' in a field, in order to develop themes, needs, directions or predictions about a specific topic. The objective of most Delphi studies is the reliable and creative exploration of ideas or the production of suitable information for decision making (Adler and Ziglio, 1996). In "pure" Delphi method research, there is no direct interaction or communication between the 'experts', so as to avoid the social processes and "contaminations" that can occur in group situations. The Delphi technique is quite flexible, and usually involves sending a questionnaire which may be structured, or unstructured to the respondents, who are usually termed the "expert panel". The responses are collated and the original, or a revised questionnaire, is re-circulated, often excluding the questions that have already achieved consensus, or by supplementing an anonymised summary of the previous responses. Panellists are invited to confirm, or to modify, their previous response for the questions that have not yet reached consensus. This procedure is repeated for a pre-determined number of rounds, or until some pre-determined criterion has been fulfilled (Mullen 2003). A limitation of Delphi is a potentially high attrition rate. Because the method often requires lengthy responses in the early rounds of the process and the active participation of the panel members over several weeks, the potential for a high drop-out rate of panel members occurs (Borg & Gall, 1983). In this study, the Delphi method has been modified to minimise this limitation by conducting a telephone interview in the first round and keeping the questionnaire responses short and concise in the following rounds. Another criticism of the Delphi method has also been the lack of having defined criteria determining who is considered an 'expert' (Rowe & Wright, 1999; Sackman, 1974), and facilitating conformity rather than consensus (Sackman, 1974; Stewart, 1987). The latter has been addressed in the present study, by the adoption of e-Delphi, where the panel members respond individually via electronic means and the responses of other experts cannot be viewed. Regarding the criteria of who is regarded to be an expert, there could be no predetermined set of criteria, but each Delphi study would be expected to determine the experts with expertise in the subject of enquiry. In this study, money advisers, and graduate CMAP students were considered as the most appropriate panel where with their knowledge and experience would be able to facilitate the course development process.

The purpose of this Delphi study was to develop an advanced level award building on the success of an existing bespoke award, the Certificate in Money Advice Practice (CMAP) that

Staffordshire University successfully developed in partnership with the Institute of Money Advisers (IMA) in 2010. Since then, over 1000 money advisers have achieved the CMAP qualification across United Kingdom (Wright et al, 2014) and the student feedback for the need of a further advanced course was a contributing factor for the development of the new advanced award (Wright et al, 2014).

An additional objective of using the Delphi method was to involve prospective students in the development of the design, structure and content of the new award, as many of the experts will be potential students of this award. In higher education there is currently an emphasis on students becoming more engaged in the learning process. Enabling students to contribute proactively in curriculum design not only enhances the curriculum but motivates students and helps them “gain a sense of ownership in their own educational journey” (Davie & Galloway, 1996).

Facilitating “constructive alignment” (Biggs and Tang, 2011), is a key curriculum design principle to ensure the best possible learning by students, where potential CMAP graduate students (‘experts’), people working in practice and curriculum developers working together to develop the curriculum, reinforce the relation between learning activities and learning objectives.

The aims of the current study therefore, were to:

- assist the development of the content and structure of the new curricula for the
- ‘Triple A’, Advanced Accreditation Award in Money Advice Practice via Distance Learning
- strengthen the student voice in curriculum design
- actively involve employers in the sector in order to reflect the sector needs in curriculum design and structure
- ensure that the competencies of the ‘Triple A’ award graduates will reflect their sector needs.

Methods

Design

A modified Delphi process was selected for identifying content, structure, and other priorities for the development of the new award comprised by the following three rounds:

1. Telephone interviews
2. Qualtrics online Survey 1 (items derived from the interviews)
3. Qualtrics online Survey 2 (items that did not reach consensus)

The Delphi modifications included the conduct of a telephone one-to-one interview as the first round instead of electronic questionnaire with the aim to minimise the attrition rate by establishing rapport with the panel experts. The second and third round to an electronic

online form to reduce conformity, including short answer and likert scale questions in order to minimise attrition rate.

Delphi Panel

Thirty "experts" were contacted to participate in the Delphi process including: current/former CMAP students, IMA partners, managers/case workers in the sector and specialist support teams with expert knowledge in the field.

Thirteen out of 30 agreed to participate in the study (43.3% response rate), six females and seven males. The literature recommends 10-18 'experts' on a Delphi panel (Okoli and Pawlowski, 2004). Informed consent was obtained for participation in the study via the email. The remaining 17 individuals found the process and study aim interesting but could not participate due to work and other commitments.

Procedure

The interview schedule

The research team comprised by two experienced money advice practitioners and academics and two highly qualified researchers. A loosely structured interview schedule was developed consisting of a number of themes and topics relevant to the award as well as various elements around content and structure.

Telephone Interviews (Round 1)

All interviews were conducted by a highly experienced researcher. Telephone appointments were arranged at the convenience of the 'experts'.

Interviews were tape recorded with the consent of the experts and were partially transcribed. Key notes were taken by the researcher throughout the interview process to facilitate the transcription. The interviews aimed to explore the views of the experts that would enable the development of content and structure of the new award.

Online Survey (Round 2)

Eighteen questions (16 closed and one open-ended) were formulated as a result of the telephone interviews. Most questions had a form of a five-point Likert scale (e.g. agreement/disagreement; importance/unimportance) or simply 'yes/no' answers. The open-ended question allowed the panel experts to add any aspect missed or just make comments. A consensus level of 70% agreement on individual items relating to the range of responses raised by respondents was used in this round (Meshkat et al, 2014).

Online Survey (Round 3)

Questions that did not achieve a consensus at the second round were rephrased and re-sent to the panel. In this round, experts had to choose one out of two possible answers: yes/no;

greater or smaller, etc. Consensus in this round was simply considered as the majority of responses using a cut-off of 50% or more (Von Der Gracht, 2012).

Results

Interviews (Round 1)

Thirteen 'experts' (n=13) out of 30 consented to participate in the interviews, giving a response rate of 43.3%. The first round telephone interviews generated a wealth of responses within each of the themes. All the experts expressed their opinions regarding the structure & content of the suggested course. As the vast majority of them had already attended the previous course i.e. CMAP, they had clear views of what should and should not be part of the new course. The interviews generated a list of responses for each of the following broad themes that guided the interview process:

- Content and structure
- Entry criteria
- Induction & materials
- Quality assurance
- Assessment and feedback
- Communication & Support
- Professional competencies & skills
- Fees & duration
- Usefulness & benefits
- Intention to participate

The responses were then analysed and grouped by the authors into commonly understood terminology that would aid the development of the survey in the second round.

Online survey (Round 2)

All 13 experts who completed the first round also participated in this round, a 100% response rate from Round 1. In this round, the experts were sent an online survey (Qualtrics) and were asked to state their choice in each of the 16 questions presented to them. The results are shown in Table 1:

Table 1. Online survey consensus

Question	Statements	Consensus
1. Essential course components	More specialised knowledge and skills compared to the CMAP, interactivity (chat rooms/discussion forums), development of own research, skype/video tutorials, Blackboard VLE information and support, ease of access to the module notes and materials, direct tutor	76-100%

	support, peer online support, course in line with current policy	
	Student collaborative work, use of webinar ¹	<70%
2.Induction	Need for induction (face to face/online)	100%
3.Course modules to be included	Specialist legal practice, advanced money advice, specialist casework, advanced social policy, advanced financial literacy	83-100%
	Advanced welfare benefits, management and development of advice services ²	<70%
4.Need for subject specific modules	Would like subject specific modules	92%
5.Type of support	Direct tutor support, online peer support, Blackboard VLE 'assist' button	92-100%
	Face to face tutor support ¹	<70%
6.Course duration	12 weeks, 16-18 weeks, 20-24 weeks, 36 weeks, 1 year ¹	<70% (8-38%)
7.Course fees	£300, £400, £500, £500, £1000 ¹	<70% (8-38%)
8.Course entry criteria	IMA Membership, 12 months experience in MA, IMA Certificate (CMAP), currently in practice	75-100%
	Specialist practitioner, casework level within advice setting, portfolio with cases ²	<70%
9.Main skills/competencies to develop as part of the course	Specialist casework, research skills, advanced communication skills, advocacy and negotiation skills, ability to identify and promote best practice	92-100%
	Advanced management practice, supervisory and leadership skills ¹	<70%
10.How best to assure learning and teaching quality of the course	IMA monitoring panel, student feedback, University and IMA quality assessment monitoring panel	75-92%
	Internal University panel, external independent monitoring panel ²	<70%
11.Assessment levels	Multilevel (fail/pass/merit/distinction)	85%
	Pass or fail ²	<70%
12.Types of assessments	Exam and written piece	85%
	Exam only, written piece only ²	<70% (0-15%)
13.Course benefits at a professional level	Higher employability, expert/specialist knowledge, personal development, external	83-100%

	recognition, operate at a management/supervisory level, high professional standards, best practice, wider links to new areas	
14.Type of feedback	Written personalised individual feedback	85%
	Written generic individual feedback, written generic group feedback, audio feedback ²	8-15%
15.Course usefulness	Course will be useful	100%
16. Course attendance interest	Personally attend or send staff to attend ²	69%

¹ These statements did not achieve a consensus, but moved to the next round.

² These statements did not reach a consensus, but they did not move to the next round.

From Table 1, it can be seen that consensus was achieved for the majority of the statements. Seven statements¹ (see Table 1) had mixed views and moved to the next round with the intention to gain a consensus.

The remaining nine statements² (Table 1) did not move to the next round even though consensus was not reached; this was because they were part of a preference selection process, where statements that did not reach consensus would be made redundant. For example, in Question 12, 'type of assessments', there were three options and experts were invited to choose between three choices: exam only, written piece only and both exam and written piece; a consensus of 85% was achieved for the combination of both exam and written piece as best type of assessment, with the other two choices having to be made redundant.

The question regarding the interest in attending the course was only just below the consensus cut-off of 70%. Nevertheless, this statement did not move to the next round due to the nature of statement. Hence, 69% of the 'experts' reported that they would definitely like to attend the course or if not them personally, they would send their staff to attend.

Online survey (Round 3)

This final round consisted of the following five questions and seven statements (see table 2, below). Nine out of 13 people responded in this round, following two reminders, thus giving a response rate of 69% of the initial participating expert group. Consensus in this round was simply considered as the majority of responses using a cut-off of 50% or more (Von Der Gracht, 2012).

Question	Statement	Consensus
Essential course components	Student collaborative work	44% yes
	Use of webinar	44% yes
Types of support	Face-to-face support	44% yes
Course duration	16-24 weeks	67%
Course fees	< £500	100%
Main skills/competencies to develop as part of the course	Advanced management practice skills	44% yes
	Supervisory/leadership skills	78% yes

Table 2: Statements consensus levels, Round 3.

From the table, it can be seen that only three out of the seven statements gained consensus, these were the course duration, where the 67% of the experts felt that a short course of 16-24 weeks was most appropriate, all experts felt that the fees should be £500 or less and 78% felt that supervisory and leadership skills are essential competencies that should be developed as part of the course.

The components of student collaborative work, use of webinar and face to face support were supported by 44% of respondents, indicating that they are not strongly considered a priority for the course. Finally, the advanced management practice skills did not reach a consensus, as they were supported by 44% of the experts, indicating that this is also not a strong component of the course.

Feedback/Feed-Forward Event

Following analysis of the results, a feedback and feed-forward event was organised with a small number of the Delphi experts and the University research team. At the event, the results were presented, and further discussions were held to clarify the precise detail and content of the award based on the Delphi results, as well as the knowledge and expertise of the team members.

Discussion

Over all the results have demonstrated the strength of the Delphi process in ensuring that the requirements of the sector are met via the involving of experts and students in the development of the curriculum. In addition, we carried out a face to face "Feedback / Feed Forward" event to feedback the results of the Delphi to the Experts and facilitate consolidating the curriculum. The Delphi study was therefore able to strengthen academic links with the sector and provide opportunities for future developments including further

research and continuing professional development (CPD). Consultation with experts ensured that the curriculum devised was mapped to National Occupational Standards, directly relevant and fit for Advanced Money Advice Practice. A further advantage was that the experts are now all aware of the course, are satisfied that the curriculum meets sector requirements and have provided a direct route to the money advice market.

The Delphi approach was also able to circumvent the practical limitations of involving experts from across the UK as participants could respond at a time convenient to them. Indeed the practical limitations of face to face meetings were highlighted by the attendance at the Feedback/Feed forward event, where only three out of the 13 experts who contributed were able to attend in person.

Despite the success of the Delphi technique in involving experts, there are some limitations as outlined below. Firstly, in a very niche field such as money advice, anonymity of the experts may have been compromised. However, there was nothing to suggest that they knew who else was involved or that this had in any way influenced their opinions.

The Delphi approach proved popular and Round 2 obtained 100% response rate. However, Round 3 of the Delphi took place in August when many participants were on holiday (revealed by their out of office messages) and despite reminder emails and resending the questionnaire the response rate was lower. Future Delphi studies should avoid key holiday periods. Despite these limitations, the Delphi technique proved a popular approach, facilitating involvement of experts and successful in identifying the content of an Advanced Accreditation Award ('Triple A') in Money Advice Practice.

Staff are currently actively involved in developing the award curriculum, mapping the award content to the relevant national occupational standards with the aim to enable the validation of the new award ready for students in the near future (Wright et al, 2014).

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