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USING PBL TO MEET THE NEEDS OF MANDATORY TRAINING IN HEALTHCARE

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ABSTRACT

This paper presents the use of problem based scenarios within an interactive online mentor update tool for healthcare professionals. Students from healthcare programmes within the United Kingdom are supported in their clinical placements by appropriately qualified members of staff who require annual updates to maintain their currency in this role; a professional and regulatory body stipulation. In response to increasing pressures within the workplace that are negatively impacting upon opportunities to access the current method for delivering these updates, an alternative has been sought. An exploration of the strategy of Problem Based Learning (PBL) and the use of scenarios within an e-learning environment is presented and a discussion surrounding the promotion of independent thought and self directed learners is undertaken. The importance of a multi-professional approach to the mentoring of students has been promoted by professional bodies, with the International Council of Nurses code (2000) stating that co-operative relationships with co-workers in other fields are necessary. The package provides a multi-professional, multi-institutional problem based approach to delivering information that is integral to the effective mentoring of students. It is recognised this is only a small scale study but it does suggest that e-learning and PBL can assist learners to become motivated and self-directed in their own learning. The PBL approach brings the information to 'life' allowing participant to critically analyse potential problems and develop solutions.

KEYWORDS

Multimedia, e-learning, problem based, mandatory, healthcare

BACKGROUND

Annual updates for mentors in practice are mandatory for many healthcare professions; where not mandatory it is certainly recognized as good practice. Traditionally mentor update programmes in the United Kingdom (UK) have been undertaken in a uni-professional fashion within clinical areas. These updates generally run for a two-hour period and are led by a member of academic staff in a didactic teaching fashion. The updates inform mentors of curricula changes, changes within the Higher Education Institutions that may influence students' learning and offers a forum for mentors to discuss issues and to ask questions. However due to increasing work loads of staff and limited staffing resources it has become increasingly difficult for staff to leave clinical areas for the period required to undertake the update or for mentors to have the opportunity to discuss or share experiences of the mentoring process in the short lecture session. In fact Miller & Parlett (1974) identified that in a lecture format, instead of the students' attention being focused on their own questions and understanding, they search actively for clues about what needs to be learned for the subsequent examination based on the actions of the lecturer, "cue seeking". This could result in a surface approach and memorization of facts rather than a focus on understanding what the lecturer is discussing. It was anticipated that the introduction of scenarios into the session would provide a meaningful way in which the participants could identify the importance of understanding the mentoring process. Silen (2001) maintains that learning in a meaningful way is also a question of constantly making choices and being able to view the knowledge in relation to other fields and areas of application. Being able to decide on the relevance of information and being able to determine when it is necessary to study something in greater depth and why, are other factors that are important for developing self-directed learning skills. Making choices is thus a crucial part of learning.

The integration of problem based scenarios into the online tool allows mentors to consider areas of relevance and to take responsibility for their own learning and development. Indeed Titchen (1992) claimed that the very shape of a PBL programme is constructed to stimulate students' responsibility for their learning's orientation, design and co-ordination. The assumed outcome of such a programme is qualified practitioners who are autonomous lifelong learners, capable of dealing with the theory/practice gap successfully, confidently and efficiently (Biley & Smith, 1999). Furthermore Boud & Felitti, (1999) claimed that PBL will assist students towards achieving a specific set of objectives that will allow them to become capable in a set of competencies, for example, adapting to and participating in change; dealing with problems; reasoning critically and creatively; adapting a more holistic approach; practicing empathy and appreciating the other person's viewpoint; identifying own strengths and weaknesses and collaborating effectively in a team. It also supports the conditions that influence effective adult learning (Boud & Felitti, 1999).

Barrows (1986, pg.15) claimed that:

'The basic outline of the problem based learning process is: encountering the problem first, problem solving with clinical reasoning skills and identifying learning needs in an interactive process, self study, applying newly gained knowledge to the problem, and summarizing what has been learned.'

This paper explores and discusses the use of scenarios within the online update to promote problem solving and critical thinking skills in mentors, allowing them the opportunity to link theory to practice in a 'safe' environment; while promoting the concept of lifelong learning and assisting them to develop effective mentoring skills.

The effectiveness of the online package using scenarios to bring the theory to life was measured via the use of a heuristic evaluation. Heuristic evaluation has been defined as a small team of

independent evaluators that compare user interfaces with a set of usability guidelines, the “heuristics.” Although the heuristic method was developed in the context of usability studies (Nielsen, 1994) with a focus on interface design, it has now been recognised as an effective method for the formative evaluation of educational software (Quinn, 1996; Squires & Preece, 1999; Albion 1999).

DATA COLLECTION

Prior to the package being developed an intensive literature search was undertaken, accessing databases including, CINAHL, Pub Med and Synergy to understand the boundaries that can prevent staff attending updates and the use of PBL in online learning. Quantitative and qualitative data was collected from a convenience sample of 20 cross-professional academics and clinicians in the fields of nursing, midwifery and operating department practitioners. This took the form of a heuristic evaluation for usability considerations, and a questionnaire for review of effectiveness. The participants undertook the update in controlled conditions within a computer laboratory. As they progressed through the package they identified any aspects that affected usability; and as they completed scenarios they reflected on what the activity had accomplished. With regard to the latter, participants were presented with three questions and asked to rate their answers using a Likert Scale; Strongly Agree - Agree - Undecided - Disagree or Strongly Disagree. Following each question participants were offered the opportunity to include qualitative comments. The final qualitative question asked if there were any examples from their own practice that may be used as future scenarios. Questions are presented in table 1

Table 1 – PBL Focussed Questions

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
The scenarios presented were relevant to my professional group		16	4		
The quality of the scenarios were such that they made me consider my own practice	10	6	4		
The scenarios have encouraged me to go back to my clinical area and discuss issues with my colleagues	14	2	4		

DATA ANALYSIS

Quantitative data was analysed using Excel, qualitative data was analysed using concept analysis.

Demography

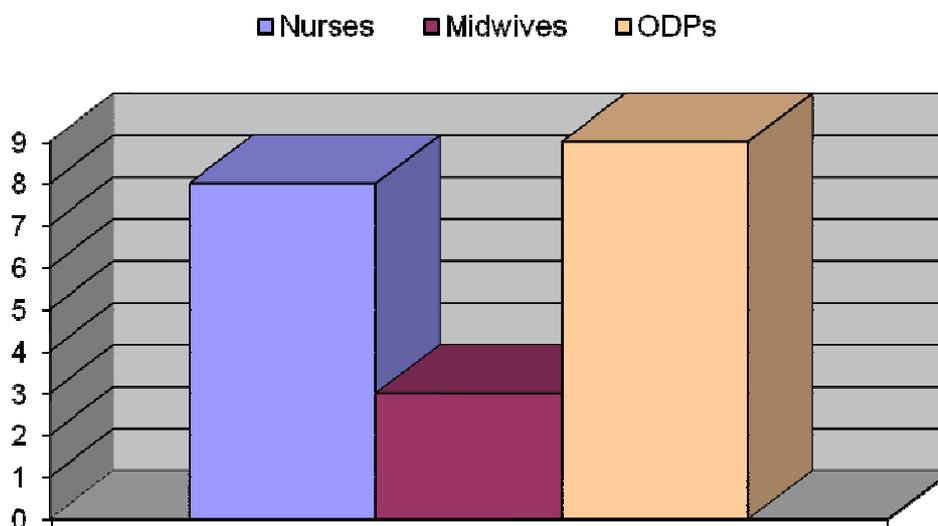


Chart 1. Participants

EMERGENT THEMES

Multi-professional

Comments that participants made referred to the multi-professional nature of the scenarios; 14 (n=20) of the participants stated that the scenarios had based the mentor update in a multi-professional context. One participant stated: *'It [the scenario] has made me think about how we all work as a team and the importance of exposing the students to all the professional groups'*.

Usability

12 participants (n=20) reported that the tool was 'easy to use', however 8 (n=20) found it difficult to navigate as they did not use a computer on a regular basis and as such lost confidence if a new window opened. They stated that when they reached the scenarios they were 'scared' to press a button in case they lost all the information.

Questioning my own practice

16 participants (n=20) reported that using the scenarios made them think about how they mentored a student. They reported that the scenarios made them reflect upon their own mentoring role especially in relation to the failing of a student in the clinical areas. They stated that on their return to their own place of work they would *'discuss with my colleagues how we should deal with a student who is not reaching the competencies required at that stage of their training'*.

Reflection

14 participants (n=20) reported that the scenarios had made them reflect on mentoring skills and how they could use scenarios to assist the students in linking theory to practice while in the clinical areas.

Makes me think

18 (n=20) participants reported that the online tool and its interactive nature had made them 'think' about their role as a mentor. They stated that they had been 'forced' to think while working through the tool, whereas when they attended a face-to-face update they did not feel they had to pay much attention as the information was '*being given*'. They believed that with this tool they were actively thinking rather than being passive recipients of knowledge.

Motivation

12 (n=20) participants reported that undertaking the online tool and being presented with scenarios has motivated them to return to their workplace and consider innovative ways to help students learn.

DISCUSSION

Following completion of the package and the heuristic evaluation, participants were generally positive about its benefits in promoting self-directed learning, with the scenarios providing a focus for them to question their own role as a mentor; on return to the clinical areas they will further discuss mentoring issues with colleagues. The fact that the scenarios are based in an e-learning package allows for the participants to work at their own speed and to revisit the information on several occasions, if necessary. Spiro, Feltovich, Jacobson, and Coulson (1992, p.65) describe the need for students to repeatedly visit the "same material, at different times, in rearranged contexts, for different purposes, and from different conceptual perspectives". Indeed Hoffman and Ritchie (1997) maintained that multimedia ability to increase the richness of the problem also increases the user's ability to interpret and understand the problem through repeated exposures. This repeated exposure is not simply for the traditional purpose of strengthening cognitive associations. In ill-structured problems, the availability of information at any given moment often exceeds the individual's ability to process it, particularly at the outset of the problem solving process. As the individual's understanding of the problem and of the accompanying resources matures, each re-iteration provides new insights.

Following completion of each scenario there are suggested answers that promote discussion and exploration of the topic area by the participant. Hoffmann and Ritchie (1997) stated that multimedia programs provide users with demonstrations or guidance in how to proceed through difficult stages of problem solution or what to expect during particular interactions. This fore-knowledge can serve as scaffolding for the learner and support development of metacognitive skills.

The e-learning package had originally been designed to allow mentors the freedom to access the information and complete their mandatory updates at a time that suited their personal and professional needs. This package creates that versatility of open access and is supported by Spiro, Feltovich, Jacobson, and Coulson (1997) who maintain that the random access capability of multimedia lends itself to students' need for "just-in-time" information in PBL. One characteristic of real experts is that they are usually not available when needed. While free

access to a real expert is no doubt preferable to a pre-recorded expert, the latter recommends itself for economy and convenience. Learning from erratic exposures to the problem or resources may more closely parallel real life, but is not very efficient for classroom instruction

CONCLUSION

It is recognised that this is a small-scale evaluation that does lack reliability but it does provide baseline data to undertake a larger evaluation once the package has been 'rolled out' to a greater number of mentors. The integration of problem based scenarios enriches the learning experience for the mentors who are required to undertake an update once a year and allows them the freedom to complete their update at a time that fits in with their schedules.

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