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Overcoming barriers to learning through e-learning

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Use of and reliance upon e-learning systems and approaches in universities is often designed to achieve a range of efficiencies, usually intended by senior management to achieve more within limited budgets. But while many endeavours are based at least partially on enhancing pedagogy through increasing access to learning, rarely are e-learning initiatives devised to overcome barriers to learning that often exist within face-to-face learning contexts as well as in traditional distance education modes. Through consideration of a specific inquiry, this paper looks at how e-learning approaches may overcome certain barriers to learning in a sensitive subject area within police education and how the learning design itself, within such approaches, is crucial to offering sufficiently engaging learning experiences.

Keywords: learning barriers, sensitive subject areas, e-learning design, police education.

Of the rationales for e-learning that many higher education and other institutions cite, enhancement of courses through blended learning ranks among the highest. Other reasons for e-learning include gaining increased access to international markets, cost reduction, response to demand, increasing flexibility, improving pedagogy, enhancing reputation and leveraging existing ICT investment (OECD, 2005, pp. 90-91 & Alexander, 2001, p. 240). While efforts to enhance pedagogy in this context are generally aimed at better responding to increasing student numbers with too few staff, a high-level desire for blended learning appears to be the strategy most closely aligned to addressing barriers to learning that can occur in the classroom.

Take, for example, a policing culture that, due to the extremely stressful nature of the policing role, values highly invulnerability and strength in the face of adversity (Violanti, 1996), where learning in formal contexts is not highly valued (Nanschild, 2002), and in which loss of face in the eyes of colleagues, especially in classroom settings, is certainly to be avoided (Gallois & Callan, 1997, p. 11). In such a context within classroom or distance education settings, the likelihood of deep learning occurring in sensitive subject areas that require self-scrutiny appears quite low. It is in this type of setting that certain e-learning approaches may hold answers to overcoming these cultural barriers.

Consider also the time and effort applied by educational practitioners to develop learning strategies and resources designed to address sensitive topics. While additional care is generally taken to address these sensitivities, the strategies and resources are so often geared towards and limited to traditional face-to-face and distance education modes.

Determining the effectiveness of these efforts is often problematic as evaluative data is often collected by organisations through positivist, top-down managerialist methods (Gilroy, Long, Rangecroft & Tricker, 2001, pp. 15-16). As well, analysis of data obtained in this way can yield findings that are not always concerned primarily with learning (Nanschild, 2002, p.13),

and can be further obscured if learners do not really engage with sensitive subject material in face-to-face learning environments to start with.

In order for universities to provide access to a range of sensitive educational topics, in continuing education programs in particular such as ethics, stress management or other compliance related subjects, alternatives to the sometimes disengaging face-to-face and some distance education approaches ought to be considered. While e-learning approaches may represent alternatives, many of the disengaging characteristics of more traditional approaches, such as, for example, very high reliance on student motivation, are often carried into and relied upon within e-learning design and approaches, resulting in low levels of engagement.

While much of the current thinking about collaboration and conversation in learning, and in e-learning, strongly supports the reliance upon group dynamics and conversation between learners and between learners and educators (Baker, Jenson & Kolb, 2002, pp. 2-7), these approaches appear to be effective only for a generalised majority of learning contexts. Certain topics or subtopics may not necessarily benefit from collaboration at all and do appear to be adversely affected. In topics where learners are required to reflect on their own characteristics, behaviours, states or feelings and disclose those feelings to others through discussion, even in e-learning based or computer mediated communication processes, barriers can be observed in the levels or degrees of engagement with learning processes and materials.

Some may argue that distance education approaches can overcome these difficulties by simply requiring the learner to engage with learning materials and in learning processes away from other students. While this may afford learners some privacy or relief from the attention of others when closely self-scrutinising, they can be quite disengaging for learners who are less self-motivated and who take less responsibility for their own learning without the significant stimulation often present in face-to-face learning environments.

There may also be some argument that the additional time and expense required to produce e-learning products may not warrant the effort. While this clearly has merit in certain cases, one should carefully consider the extent to which learners actually engage with distance education and/or flexible learning materials and to which the potential for shallow learning in sensitive subject areas may, in the long term, harm both the student and members of the community with whom they have contact.

One should also carefully consider the application of learning technologies so as to be not simply for technology's own sake (Masie, 2004, pp. 4-18). In this regard, e-learning may be used not simply to overcome the tyranny of distance, or to enable anywhere anytime learning, or to supposedly free-up precious resources, but to achieve a return on investment in different terms than are normally discussed. These terms may include different learning outcomes such as deeper learning in certain areas, graduates better equipped to self-manage as well as learning experiences requiring fewer uncomfortable disclosures of personal feelings leading to greater potential for continuation of or for future study. Additionally, Watson (1997, p. 3) notes that students who have fears that restrict their participation in classrooms have low success rates in their overall educational achievement.

A possible solution

This study considers these issues through examining the experiences of learners undertaking a stress management module, partly within a police organisation and also including a small

group of personnel from other professions. Although the project was undertaken primarily under the auspices of the NSW Police Force with ties to a university partner, it has implications for professional and continuing education in universities.

An e-learning, or in this case an interactive multimedia, module was specifically designed for this study in order to provide learners with an introduction to managing their own stress where other learners were not aware of their thoughts or experiences. But in establishing a suitable learning design and framework, it was essential that the perceived set of issues and barriers that formed that basis for the study actually guided the design. While there was no commitment to a particular framework or design, the main assumptions or bases for design was the need for participants to engage with the module in isolation from other participants and for high levels of engagement with the module.

The resulting approach was determined certainly through discussion with a range of educators and through a contextualised set of the author's personal experiences, but then through searching for learning theory and framework elements that resonated with the requirements.

What became apparent through these avenues was that participants would expect to receive, and would likely respond well to, a module design that was not too far removed in concept from their familiar hard copy manuals and distance education products, traditionally laid out in a somewhat linear, objectivist or directed fashion. While taking this approach may in part have limited the potential for powerful learning experiences, the exposure of the intended group of participants to e-learning, or approaches that diverge significantly from traditional learning, was on the whole quite minimal or nil. As well, to have taken a purely constructivist approach initially, in which interaction with others was desired or required, would have gone against the intent of the study. The design required that upon completion of the module, participants would have built a reasonable base from which to understand the topic and be able to apply the principles, after which interaction with others could be accessed if desired.

Gagné's Nine Events of Instruction (Killpatrick, 2001, ¶ 5) were drawn upon as an initial approach to the instructional design to intentionally impose a linear but scaffolded pathway and, while many of the nine events (gain attention, inform learners of objectives, recall prior knowledge, present material, provide guided learning, elicit performance, provide feedback, assess performance, enhance retention and transfer) are addressed in some way, some elements of Bruner's Constructivist Theory (Patsula, 1999) have also been relied upon. While the effectiveness of any acclaimed learning theory, framework or approach can only be determined through how it is actually applied, the relevance of the described approaches was based upon the determined need for learners to create mental models of the topic, to analyse theoretical elements and to apply the concepts ideally in ways that learners find meaningful and authentic in their own contexts.

Module overview

The module is structured into six units, several of which are hierarchical learning objects, each containing several elements and a range of screens:

<input type="checkbox"/> a. Introduction & Purpose
<input type="checkbox"/> b. What is Stress?
<input type="checkbox"/> c. Dealing With Stress
<input type="checkbox"/> d. Stress Management Action Plan
<input type="checkbox"/> e. Further Information and Support
<input type="checkbox"/> f. Feedback

Figure 1: Module structure

In undertaking the module, learners would engage with the topic in their own time and space, but without the intrusion of others or the need to disclose their feelings or thoughts about the topic or their individual stressors or stress levels. They would engage with theoretical material through interactive on-screen presentation of information and appropriately engaging interactions to enhance their understanding of the topic as well as to apply the concepts being learnt through a range of quite practical developmental activities.

The study

Ten participants were selected for the study from a range of different professions and organisations. While originally a focus on a single organisational setting and set of participant characteristics was intended, a broader approach which took in a more diverse range of participants was taken to attempt to gain insight and applicability to a greater number of contexts.

While initial selection of participants was achieved through a random selection, the criteria for their final selection included availability to be involved or release from normal work duties. The participants included five police officers ranging in rank from senior constable to chief inspector, one police administrative officer, two ambulance officers, one clinical psychologist, one financial consultant and one community welfare services manager.

Participants were provided with a succinct but sufficiently detailed package to introduce the module, how to install and use the module as well details of the ways in which evaluative data would be collected following completion. They were provided with sufficient detail about the general intent of the study but not as to the specific intent of collecting their experience of not having to disclose their personal experiences to other participants as well as to determine their degree of engagement with the module.

Two levels of evaluation were planned, with the intention of capturing data from different perspectives. The first level involved a built-in request for participants to provide feedback using an evaluation form located in the last unit of the module. This approach was to capture the immediate responses of participants as to their experience of the module upon completion: what they found useful/not useful, as well as to determine the degree to which they engaged with the module. An additional and underlying intention of this first level was to lead participants through a reflective process so as to become more likely to engage fully in the second evaluation level.

The second evaluation level involved interviewing each participant at least a day after having completed the module to capture their thoughts of the strategy that was used to take them away from traditional and familiar classroom or distance learning environments. It was hoped that this level would reveal insights into their experiences and views on being intentionally isolated from other participants, especially for the components of the module that would normally require a range of personal disclosures.

Participant Responses

Of the ten participants, six had no experience with e-learning, one had a little and three described themselves as having a reasonable amount of exposure. Interestingly though, given this high percentage with no experience, all but two participants were able to install and log-in

to the module without difficulty. This may indicate that participants were a little more familiar with interactive software packages than they were willing or able to articulate.

Most participants initially had some difficulty with navigation due to the module having two levels: units, and elements within each unit, although they quickly learnt the system due in part to affordances built in to the module to resemble somewhat the linearity and directed structures prevalent in traditional and familiar distance education materials.

Some participants thought the amount of information and its levels or depth was good while others hoped for less. This was anticipated due to factors such as differing cognitive load abilities (Sweller, 1998), differing learning styles, preferences, interests and available time. Learning styles and cognitive load abilities were initially catered for by having, in most instances, three levels or depths of information for each unit presented in both textual and graphical formats and, in parts, with the support of embedded audio material. Additionally, further internet links and supplementary activities were provided. In this regard, 40% of participants described their overall experience of the module as being 'tailored just for me' which could indicate significant levels of engagement, or, fewer occurrences of disengagement.

Nearly all participants commented positively on the effectiveness of the module strategy: interactive presentation of theoretical information, self-assessment activities without disclosure, strategies to address stress and then compilation of an action plan to draw together each of the main principles to extend learning into the future. Five participants commented very positively, specifically in terms of liking the privacy afforded, on how strongly engaging the module design was and how different their experience was to more traditional classroom and distance education modes. Interestingly though, it was not until the second evaluation level, where participants were guided through simple reflective processes and engaged in structured discussion, that they became mindful of the strategy to provide privacy. They were then able to articulate their feelings on the privacy afforded and make comment as to whether or not they benefited as a result.

Five of the ten participants felt that once they had completed the module, they were left a little in limbo; four of whom were those who particularly liked and benefited from the privacy related aspects. They commented that some form of discussion with others following completion would be very useful to clarify thoughts on the strategies they had proposed or chosen for their action plans.

Effectiveness of the Module

While the original intent of the module design was to include much richer media and a less linear approach, testing of the resulting thin media version revealed some unexpected insights. When asked further about their prior experience, the 40% of participants who commented that they did in fact have some e-learning experience revealed that this did not necessarily include interactive multimedia for learning purposes. Some participants stated they had watched or helped their children through computer games, while others asked for further clarification to define e-learning. As Turkle (1997, ¶¶ 34-41) infers, without relevant and developed 'objects to think with', participants may not easily relate to or identify with sophisticated design elements, likely resulting in poor or a lack of engagement from the outset. Where participants do see elements that correspond with more traditional hardcopy or distance education relationships or symbolism, they are likely to respond more readily and take less time to learn

about and become comfortable with such an e-learning approach. Even so, some navigational difficulties were experienced.

Given that central to this study is acknowledgement of the need for and the intention of high participant engagement with the subject material, the specific degree to which engagement actually resulted was difficult to ascertain. While it can be concluded that engagement was high in certain respects due to the module design and to the absence of peers or colleagues, it is difficult to measure the actual degree to which the absence of peers contributed to this. It is interesting then to consider engagement from the perspective of not so much what was engaging, but rather, what disengaging factors were experienced or were simply avoided. A comparative study would surely reveal greater insights.

Also apparent was the fact that participants, on the whole, were most engaged when undertaking the self-assessment activities. This may indicate a temptation to undertake the practical, more engaging elements at the expense of the less engaging elements, in this case the essential theoretical material. While this temptation is also possible in more traditional and interactive settings, Roffe (2002, p. 41) highlights that the need to provide highly engaging learning opportunities is far greater in e-learning contexts as the consequences of poor engagement are more dire than in traditional settings.

In the design model, the linear and objectivist design elements can be clearly seen (Figure 1: Module structure). What is not evident, however, is the separation or insertion of practical activities between theoretical components. These activities were central to the subject matter and were positioned at strategic points along a linear process throughout the module. To increase engagement through design, participants should not be afforded the opportunity or temptation to undertake the practical activities at the expense of the theoretical components, as would be likely when low levels of engagement are experienced. With this in mind, greater integration or fusing of the theoretical and practical components, combined with the initial approach of undertaking the module without the intrusion of others, would surely significantly improve the experience or engagement of participants.

At least two learning design theories could be applied to a revised module design: firstly, a problem based approach as a gateway to engagement with all components of the module. Here, practical activities become inseparable from theory. While online problem-based approaches are proving highly effective in the education and training of health care professionals (Beer, et al., 2002, pp. 135-144), these approaches are not seen to specifically and intentionally address sensitive topics for which initial interaction between student colleagues is likely to be counterproductive to learning; a degree of disengagement through intrusion is still likely.

Secondly, a flexibly adaptive approach could be embedded in the problem-based approach to ensure that some of the complexities and real life demands of decision-making are recreated (Schwartz, Lin, Brophy, & Bransford 1999). This approach could offer participants a series of options regarding what actions could be taken to address or respond to a given and unfolding scenario and to consider the implications and consequences of those actions. Consideration of each action and subsequent consequences must then be measured against the relevant theory, where analysis and reflection are required to progress through the module. Preparation of strategies and action plans to address personal stress is then informed by those observed as relevant and effective in the scenario.

These approaches to e-learning design generally are not of themselves new. However, their immersive and engaging characteristics combined with the initial separation from student colleagues may well, and particularly in the context of this study, achieve significantly high levels of learner engagement especially in sensitive subject areas.

Implications

In partnership, the NSW Police Force and Charles Sturt University offer the Associate Degree in Policing Practice (ADPP). Many students of this course, who intend becoming police officers, may benefit significantly from the proposed approach due to factors that may have led them to commence study towards this profession in the first place. These factors may include, for example, having previously suffered child abuse or domestic violence, where they must now undertake study dealing with these sensitive and potentially emotionally charged subjects.

Other topics within the ADPP that may benefit include: corruption, moral vulnerability, internal investigations, whistleblowing and loyalty. The nature of these topic areas, according to many students as observed by the author, is often described as both distasteful and certainly not something to be seen to actively engage with in classroom settings.

Conclusion

The research described in this paper is about a stand-alone e-learning module designed and developed specifically to consider overcoming certain cultural barriers to learning. While being a small study, it nonetheless indicates applicability to a range of learning contexts. From a higher education perspective, it points to the viability of including emotionally and ethically challenging material in online continuing education programs.

More importantly, while this study has taken an unusual approach to effectiveness in education by proposing that some learning is best experienced in isolation from others, this must only be seen as relevant to components of courses or topics and not whole topics as is commonplace in blended learning. Collaboration with peers and educators may then re-enter the scene as established and effective learning strategies.

Also proposed as being essential to the effective and deep engagement of learners with e-learning components of such blended courses that address sensitive topics, is the instructional and learning design itself. Without significant integration or fusing of the theoretical and applied components, the essential deep engagement of learners and the hoped for advantages of e-learning in this particular context are unlikely to be realised.

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