



Learning in the first-person: an initial investigation

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In Australia, as in most other developed countries, the days of the didactic teaching practices of yesteryear are disappearing, being replaced by immersive and engaging pedagogies. Underpinning these pedagogies is a shift towards the acceptance that learning in an authentic manner results in a positive learning experience resulting in deeper learning. Together with the ever-changing digital technologies is the interplay they have with pedagogy.

This paper reports on a work-in-progress study investigating the hypothesis that learning in the first-person, in an experiential learning context, results in deep learning. The first stage of the study investigates the development of learning content presented in a first-person view on mobile phone. Nurse educators participated in the development of a prototype learning object of an intricate task that is best learnt if the learner sees what the nurse sees, and is available when they need it. Preliminary findings show that content choice, situation and environment for the creation of the task are critical to the using a first-person view in the development of content to be viewed in the first-person.

Keywords: first-person, mobile learning, experiential learning, authentic learning

Introduction

Digital technologies are impacting on what we learn and teach, as well as where and how we learn and teach. In Australia, as in most other developed countries, the days of the didactic teaching practices of yesteryear are disappearing, being replaced by immersive and engaging pedagogies. Underpinning these pedagogies is a shift towards the acceptance that learning with experiential activities in an authentic manner or environment results in a positive learning experience resulting in deeper learning. Together with this shift are the ever-changing digital technologies that can interplay with pedagogy.

Over the years learning theories such as behaviorism, cognitivism and constructivism have guided teaching practices, however, they now need to be re-addressed as they were developed for a time where learning is impacted by technology (Siemens 2005), as “technology has reorganized how we live, how we communicate, and how we learn” (Siemens 2005:1).

It is disconcerting that the development of new technologies is moving faster than their 'quality' adoption by educators and learners. There always seems to be something bigger, better, brighter on the market, which raises concern by some educators as to the implications these new and emerging technologies are having on education, and in particular in regard to sound pedagogical practices that lead to learning. This concern is not new, as it has been expressed by others such as Rochelle (2003) in his reference to the design of "computer-based representations of concepts, data and other objects" and the need for an interaction and understanding between "the pedagogical and social use of technology" (p2).

One such technology that has recently emerged allows for the easy creation of video recorded in the first-person, that is, what is viewed is the same view as the person who is in the video. This paper presents a work-in-progress proof-of-concept investigation into the development of a prototype of an in the first-person video displayed on a mobile phone to enable an authentic experience from which to learn.

Background

Lynch (2005) found in her investigation into students' perceptions of virtual reality as a context for learning, that a first-person view for learning created a more immersive and authentic experience than from another views. The study reported that the participants found it more engaging and realist using the first-person view than the same activity without the first-person. Two key findings from the study were that activities that are real or simulated and presented in the first-person, have a greater chance of the learner acquiring the required skill or knowledge.

Experiential and authentic learning

In order for students to learn with deep understanding, the content must be rendered meaningful to the learner (Chee 2001:2). Successful meaning making, for any individual, requires the personal construction of knowledge. This can be achieved through real-life activities and experiences within an authentic context. Experiential learning activities such as case studies, role plays and simulations are designed to reproduce real-life challenges (Lave & Wenger 1991). This allows for a learning environment that provides opportunities that are genuine and provide an opportunity for knowledge and skills to be learnt in a context that reflects its use and acquisition in everyday situations; and therefore, resulting an opportunity for deeper understanding of the content.

Authentic learning follows on from experiential learning in that it is "the notion of learning knowledge and skills in contexts that reflect the way the knowledge will be useful in real life" (Collins 1988:2). Authentic learning environments can be defined in terms of the characteristics and context of the task, and the roles of the participants. Characteristics include, content is authentic and realistic context, problems are ill-defined and complex, require a significant investment of time and intellectual resources, require examination from multiple perspectives, require collaboration and reflection, are integrated with assessment, and are supported by scaffolding and coaching by the teacher and others (Herrington, Reeves & Oliver, 2010). Developing an authentic learning environment relies heavily on embracing sound pedagogical practices. Authentic learning as a pedagogical framework, is appealing as it situates knowledge and skills in realistic situations, provides cognitively challenging problems, and provides an avenue for the creation of real products by learners and instructors (Chee 2001). Further, Chee (2001:3) argues that students need to be given the opportunity to ground their learning in active, first-person experimentation thus providing the basis for concrete experience. Herrington and Kervin (2007) suggest ten practical ways for technology to be used effectively and meaningfully in classrooms that are based on principles of authentic learning, (p5). Goodhue and Thompson (1995) posit that information technology is more likely to have a positive impact on individual performance and be used, if the capabilities of the technology match the tasks that the user must perform. Herrington and Kervin (2007) update this argument with an important warning that "technology needs to be used in theoretically sound ways, and it needs to be used by students rather than teachers" (Herrington & Kervin 2007:1).

Learning in the first-person within a realistic context and underpinned by authentic problems from which to learn and be assessed, sits well with the characteristics and principles proposed by Herrington and Kervin.

First-person view

Using a first-person perspective to engage a user in a computer-based experience is the approach taken today by many computer games and environments such as World of Warcraft and SecondLife. First-person view refers to a situation where the 'player' (user) engages in direct interaction with the elements of the game or environment. This interaction gives the player an experience that they can relate to and be engaged in. Many games draw the player 'in' so much so that they become immersed in the environment. As technology and thus its resultant games, activities and environments become more sophisticated and life-like, reality is becoming augmented and blurring the line between what is real and what is virtual. A first-person view is a very realistic perspective as the learner feels that they are *there*, with the resultant experience being either authentic, experiential or 'un-real' (in so far as fantasy).

The study (work-in-progress)

Building on work by researchers such as Lynch (2005) and Chee (2001), this study investigates the synergy between learning in the first-person using digital technologies and experiential learning. The guiding hypothesis for this investigation is *learning in the first-person within an experiential learning context results in deep learning*.

The study is a pilot designed to test the hypothesis using artefacts created using a first-person orientation and delivered on a mobile phone within the context of nurse education. Nurse education was selected as there are many intricate skills a trainee nurse needs to acquire, however, their practical skills most often are learned in a training laboratory with mannequins, or via multimedia artefacts such as presentation slides, images and videos. The artefacts used to learn these skills are from an 'over the shoulder' of the educator view, from a wide-angle or distant view, or from animated images or drawings. All of which are not close and real views of what is to be learned. In addition to the nursing laboratory/lecture setting, it is considered to be very beneficial by nurse educators to view the skill training artefact in situ – that is, at a time and place they require further instruction or a refresher. This concept is supported in general by researchers such as Laing et al (2005); Lehner and Nosekabel (2002); Rochelle (2003), and in particular in the health arena (Fisher et al 2006; Lai et al 2007).

Two nurse educators were involved in the study with feedback from first year nurse students. The choice of device for delivering the artefact is a mobile phone, as these devices are readily available and ever-present with today's general population. It has been evidence by, for example Fisher, Dawson, Weeding and Heslop (2006), and Lai et al (2007) that mobile wireless devices are of benefit to nurse and allied staff during the conduction of their responsibilities whilst they are on duty technologies can provide instant learning guidance and feedback and use new interfaces for diverse learning approaches.

A study conducted in Canada by Kenny et al (2009) explored the use of mobile technologies in nurse education, however, the devices were not enabled with first-person artefacts nor presented in an authentic context as described above. However, they did find that "[participants] found the devices convenient for immediate reference and easy to access when needed" (p7). On asking their participants what might they use mobile devices in their overall nursing education, the responses included looking up complex procedures like blood transfusion as these could then be "right at your fingertips and is accurate and up to date" (p8). Our approach builds on their work in that we presented the artefact in the first-person on a mobile phone.

The project developed several learning objects; taking a patient's temperature, an intravenous procedure and medical rights and procedures. The video from a first-person perspective was taken of an expert conducting the procedure. This enabled the person viewing the final video to see what the nurse sees through their eyes as they conduct the intricate procedure (see Figure 1).

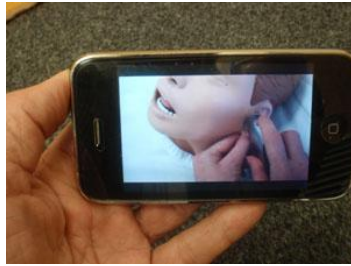


Figure 1: The artefact



Figure 2: First-person learning in action

The video was captured in .3pg format which is suitable for viewing on a mobile phone, further, the file was converted to .mp4 for later deployment on a web page. It was important for the artefact to be short in duration (20 seconds or less) for delivery using a mobile phone as well as limiting transmission load if viewed over the Web.

To date, only the temperature artefact has been trialled. A scenario was developed of a trainee nurse using the artefact on a mobile phone at the bedside of a mannequin, then at the bedside of a patient. Figure 2 presents the artefact being viewed in situ, that is, viewed prior to the trainer undertaking the task, during the task itself, or as a self evaluation at the completion of the task.

Findings

The artefact viewed using a mobile phone (Figure 1) was shown to nurse educators and to two trainee nurses. All participants overwhelmingly supported the concept and the value of having *an expert in your pocket*, but more importantly that the artefact was in a view that one could really 'see' and relate to as the situation was authentic.

The participants commented that both the artefact and its delivery on a mobile phone play a role in scaffolding the learning - and re-learning, and that the authentic content and context must bring about quicker and deeper learning. The nurse educators commented that the implications for the use of this technology are immense, and that they claimed that *'the handheld device will free up time for educators in the lab and allow students to practice and self direct their leaning experience until they are confident'*. They further elaborated as the use of first-person video in regard to assessment, in that, if the students were to then video what they were doing, it would also be possible to use this method as a form of assessment and observe whether the students were competent at the skill required.

One student said it all:

I found it incredible to be able to refer to the video clip. I could stop, rewind and fast forward the video clip and generally go at my own pace until I had mastered the skill'. Further, 'Seeing what was exactly required and then putting this into practice was a really valuable learning experience...I was self-directed and was learning exactly what I needed to know without the distraction of others in the classroom who may have already mastered the skill.

During an exhibition at the university, the first-person skills lesson was shown to a wide range of academic, administrators and support staff. Feedback was very positive with the following being a common comment; *'not only can the students see firsthand the technical skills that they are required to perform but that can also reference the information to see if they understand what is required of them'*. They also commented on the potential use for their own courses, as a method of assessment, and a way to reinforce learning especially with the Y Generation. Comments from non-nursing staff on seeing the video were that they *'had learnt how to take a temperature'*. Other comments related to proactively planning for support through Blackboard (the University's learning management system).

Discussion and conclusion

Siemens argues that education is changing as it is not how much one learns, but rather it is knowing how to access the knowledge that is important; this knowledge is part of the 'new' education (Siemens 2005:5). One way to improve this access is through technology. However, as we have learnt in the past, educational technologies themselves do not guarantee good learning experiences. Herrington and

Kervin (2007) (and others) argue that for one to learn best, the learning technology needs to be based on modern educational theories and embedded in sound pedagogical practices with quality experiential activities within an authentic learning context. One or all three is what is needed for deep learning.

The pilot study reported here, has taken the first step in validating the hypothesis that *learning in the first-person within an authentic learning environment results in deep learning*. It has shown that digital technologies can enable a good learning experience if the pedagogy, the context and the technology ‘fit’ (Goodhue & Thompson, 1995). The next step in the study is develop more and diverse first-person artefacts then conduct a large study to re-test the hypothesis, and in particular the premise that this approach deepens learning. A larger sample will be asked to participate in a number of situations such as in a nursing laboratory, clinical practice, and as a refresher aid, With this larger study, problem-based scenarios will be developed to accompany the artefacts from which the students will need to determine and develop a solution. By filming a range of short clips a reference library can be built up so that the students would have access to it on blackboard or their mobile phones. This would be useful to reinforce what they had learnt that day in the nursing laboratory or as pre-reading to a laboratory class.

One of the aims of the next phase will be to investigate the second part of the hypothesis, that is, deep learning, as well as the development of suggestions, guidelines and recommendations for the synergy between the three tenets.

During the investigation it was determined that a further hypothesis needed to be explored relating to assessment in the first-person, whereby a student could use a first-person video to report on their conduct of the intricate task. In these times of the possibility of no physical presence on campus and never meeting the tutor or the teacher, assessment in the first-person could be a way in which to verify or authenticate the person who is being assessed.

References

- Chee, Y. S. (2001). Virtual reality in education: Rooting learning in experience. In *Proceedings International Symposium on Virtual Education*. Busan, South Korea 2001, pp. 43-54.
<http://yamsanchee.myplace.nie.edu.sg/Publications/2001/ISVE2001Invited.pdf>
- Goodhue, D. and Thompson, R. (1995). Task-Technology Fit and Individual Performance. *MIS Quarterly*, 19(2), 213-236.
- Herrington, J. and Kervin, L. (2007). Authentic learning supported by technology: 10 suggestions and cases of integration in classrooms *Educational Media International*
- Herrington, J. Reeves, T. and Oliver, R. (2010). *A Guide to Authentic e-Learning*. Routledge
- Fisher, J., Dawson, L., Weeding, S and Heslop, L. (2006) Implementing a mobile wireless environment in a hospital ward: encouraging adoption by nursing staff. In *Proceedings of the 19th Bled e-Conference, Bled, Slovenia, June*
- Kenny, R.F., Park, C., Van Neste-Kenny, J.M.C., Burton, P.A. & Meiers, J. (2009). Using mobile learning to enhance the quality of nursing practice education. In M. Ally (Ed.), *Empowering Learners and Educators with Mobile Learning*. Athabasca, AB: Athabasca University Press.
- Lai, C., Yang, J., Chen, F., Ho, C. and Chan T. (2007). Affordances of mobile technologies for experiential learning: the interplay of technology and pedagogical practices. *Journal of Computer Assisted Learning*, 23 (4), 326-337.
- Lave, J. and Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*, Cambridge University Press, Cambridge
- Lehner F. and Nosekabel H. (2002). The role of mobile devices in e-learning – first experience with a e-learning environment. In *IEEE International Workshop on Wireless and Mobile Technologies in Education*. pp. 103–106. IEEE Computer Society Press, Los Alamitos, CA.
- Liang J.K., Liu T.C., Wang H.Y., Chang L.J., Deng Y.C., Yang J.C., Chou C.Y., Ko H.W., Yang S. and Chan T.W. (2005). A few design perspectives on one-on-one digital classroom environment. *Journal of Computer Assisted Learning*. 21, 181–189
- Lynch, K. (2005). Virtual reality: First impressions. In *Proceedings of the 3rd Hawaiian International Conference on Education*. Waikiki Hawaii. January
- Roschelle J. (2003) Unlocking the learning value of wireless mobile devices. *Journal of Computer Assisted Learning*. 9, 260–272.
- Siemens, G. (2005) Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*. 2 (1)

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Please cite as: Lynch, K., Downer, T and Hitchen-Holmes, D. (2010). Learning in the first-person: an initial investigation. In C.H. Steel, M.J. Keppell, P. Gerbic & S. Housego (Eds.), *Curriculum, technology & transformation for an unknown future. Proceedings ascilite Sydney 2010* (pp.570-575). <http://ascilite.org.au/conferences/sydney10/procs/Lynch-concise.pdf>

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