The Student Experience

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A wikied student experience:
a collaborative project

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This article reports on the development, implementation and qualitative evaluation of an innovative and authentic learning environment in a higher education setting. The changeover of a course of study from internal students only to include both internal and external mode has many ramifications, not least the necessary redesign of a group project and presentation assessment task.

Analysis of the student demographics, the learning environment and the pedagogical underpinnings, together with the requirements of the task led to a redesign to enable virtual collaboration between group members culminating in the creation of a set of communal resources in a wiki.

The researchers were particularly interested in the student perception of an innovative application of collaborative software (a wiki) in an authentic learning and assessment task with diversity of outcomes. The wiki is considered to be one of the emerging technologies with a real-world relevance and will have a major impact on teaching and learning yet is one least used amongst students.

Concerns about the digital divide between digital natives and second wave adopters were shown to be unfounded. Student comments are interspersed throughout the article to reflect their lived experience relating to the process which seamlessly integrated learning with the task. Descriptions by them show how they became embedded in a collaborative social practice. They were empowered to examine information from a variety of perspectives as they articulated, reflected upon and shaped content in an iterative manner.

Implications and recommendations for improvement in future practice are made.

Keywords: authentic assessment, psychology, wiki

Introduction

In 2008 the Bachelor of Behavioural Science (BBehSc) degree at Charles Darwin University (CDU) was offered as an external course for the first time. It was anticipated that external students would enrol and be taught in the same units (subjects) as internal students. In relation to this intake of external students and that internal students are spending less time on campus due to other commitments, Holt, Rice and Armatas (2003) suggest the online environment provides an avenue to connect students irrespective of their mode of study and this is most effectively achieved through the use of well designed activities.

To this end the first assessment task, weighted as 20%, which previously required small groups to work together and give a presentation to the other students, would be redesigned to allow virtual collaboration between group members culminating in the creation of a set of communal resources in a wiki which was then peer and lecturer assessed. Ethics approval was granted to enable a student evaluation of the implementation of a wiki for collaborative learning and creation of communal resources available to all. The methodology for this low risk approval involved a retrospective audit for teaching and learning purposes undertaken as a case study. Selections from the anonymous qualitative student comments are interspersed throughout the article to reflect their lived experience using a binominal identification of a generation label and mode of study.

The context

The students
The unit considered in this research by audit was a third year subject 'Theories of Personality'. The breakdown of the completing student cohort of 40 is shown in Table 1 and consisted of 17 internal students and 23 external students (aka distance learners) across a range of courses. The 29 female and 11 male students were aged from 20 to 64 years which crosses the generations commonly categorised as Net Generation, Generation X, Baby Boomers and Matures (Oblinger & Oblinger, 2005). This categorisation gives a more valid description of the likely skills and knowledge of the students than using a more traditional description of age by decade of birth.

Table 1: Breakdown of students by categorised year of birth and mode of study

Year of Birth	Categorisation	Internal	External	Totals
1982-1991	Net Generation	10	6	16
1965-1981	Generation X	5	11	16
1946-1964	Baby Boomers	2	5	7
Pre-1946	Matures	0	1	1
Totals		17	23	40

This demographic diversity raised issues regarding the digital divide, and the digital native versus the technophobe. Hilton (2006) observes that "Today's students want to be able to take content from other people. They want to mix it, in new creative ways – to produce it, publish it, and to distribute it" (p. 60). Whilst the older students (and the Baby Boomer lecturer) fit more into the profile of second wave adopters who are socialised in pre-technological contexts and are presented with different challenges.

The pedagogical underpinnings
The pedagogical underpinnings, or the 'underware' as it has been referred to (Adams, 2004), provide the necessary foundations in the use of any hardware or software in a learning technology. The assessment task was purposefully early in the semester to engage the students with each other and the content of the unit of study, to keep them focused, to aid in motivation and to help in retention. Student comments appear below.

> It was good to have our first large assessment over by week 6.
> (Net Generation, External)

A good experience in learning.
(Baby Boomer, Internal)

The lecturer wanted to develop a deep community focus rather than an individual one and so related this to communal constructivism (Holmes et al., 2001), an extension of social constructivism, where the student creates content *for* as well as *with* others. This knowledge building with others aids in reflection and review so leading to accurate content having credibility in high quality, complex topic areas, such as this 3rd year theoretical psychology subject.

Out of a total enrolment of 45 students stratified groups were created by the lecturer to reflect the demographic variety of the students' age, gender, mode of study (internal or external) , and course enrolment. This resulted in ten groups of 4 to 5 students, however with attrition some groups were reduced to three members and one group consisted of only two functional members. On request one student wished to be removed from their group and preferred to work in isolation in an eleventh group. This quote from a student reflects these demographic issues.

> Electronic and face to face mixes can prove challenging due to time however I think this is all part of the process of managing time in groups. External [students] usually have competing time demands from the internal [students] also creating occasional issues with when the entire team could meet. It was good to meet and work with fellow students.
> (Generation X, Internal)

These groups were formed within the first week of semester and consisted of both internal and external students. A blended learning approach occurred as the lecturer was able to provide advice and guidance throughout the six week period to the internal students that attended lectures, they then acted as conduits to inform their other group members.

The interactivity within the groups also enhanced alliances between the students as they worked against the external time constraints set by the lecturer. In designing the assessment task the lecturer established a series of stages and milestones to enable a seamless interwoven resource for learning otherwise some students would rely on trying to complete the task within the last few days which would result in a reduced collaborative effort and exasperation from committed students (Atlay, 2007).

This learner-centred, supportive web-based environment gave access to focused, current online resources to enable students to fully facilitate their research imagination and enhance the intellectual depth of dialogue. This is reinforced by a student who reported the following.

> I felt it was a valuable experience and time wise much better than using class time to hear presentations.
> (Baby Boomer, Internal)

The online learning environment
In addition to the on campus classroom for the internal students this diverse student body was enrolled in a single learning management unit powered by Blackboard v6.3 known locally as Learnline. Learnline was available to facilitate the communication and the development phase but the precise mechanism for communication was not prescribed. Some groups did use the

collaborative tools in Learnline (chat room, live classroom, group email, etc.) and others reported using teleconference facilities and virtual synchronous systems. Many had to develop new IT skills as they grappled with writing for the web, uploading and editing content with design aesthetics in mind. Learnline could also be linked to other technologies on an as required basis.

The wiki

Taking into consideration the above factors with other relevant issues from Bates and Poole (2003) SECTIONS model for choosing a learning technology (Students; Ease of use and reliability; Costs; Teaching and learning; Interactivity; Organisational issues; Novelty; Speed) a search of the most relevant learning technology resulted in the decision to use a wiki. The decision to use a wiki was supported by education.au's Strategic ICT Advisory Service (SICTAS) to the Department of Education, Employment and Workplace Relations in 2008/2009 which is investigating the current and future impacts of emerging technologies on teaching and learning. One of the predicted big impact technologies is the wiki (education.au, 2009) amongst others which include: mobile devices, integrated learning management systems, interactive white boards, social networking, data mashups, and broadband.

The annual Horizon Report in 2007 (New Media Consortium, 2007) stated that user-created content will have a significant effect on education, and the most easily available tool for user created content is the wiki. "These tools allow (and encourage) shared responsibility for development of course resources, links, and materials" (p.10). A wiki allows the 'invited' members to have access to create and edit web pages and make links between their web pages. Multimedia can be uploaded and hyperlinks can be added to other online resources. Choy and Ng (2007) recommended that the wiki had to be easy to use with low technical training and support requirements. Three student experiences reveal this ease of use.

> The wiki was reasonably easy to utilise and allowed for a vast range of creativity
> to be implemented.
> (Net Generation, Internal)

> Basic word skills are almost enough to navigate through wiki additions and edits.
> Putting in links was a little harder but once achieved was very satisfying.
> (Baby Boomer, Internal)

> In general the development was fun although it took some time to become
> accustom to the program.
> (Generation X, Internal)

At the other end of the digital user spectrum another student experienced some initial anxiety as can be seen from the quote below.

> Working together with external students and using the wiki was more challenging
> than I had expected at first. The main reason for this was probably some
> "unconscious" anxiety towards the new media.
> (Net Generation, Internal)

The wiki as a collaborative online tool enabled the group members to experiment and modify their effort in many iterative phases. They were provided with clear expectations of what the

wiki can offer especially in the affordance of the social dimension of learning with the scope to develop their own solutions to the problems.

The digital divide with respect to wikis is not supported by evidence as in the report by Kennedy et al (2007) which showed that over 80% of first year students at a large metropolitan Australian university had not contributed online to the development of a wiki. This finding is surprising and was an impetus for choosing a wiki in this instance.

The task

Thus the opportunity was taken and an authentic group project assessment task was redesigned to allow virtual collaboration between group members culminating in the creation of web pages in a wiki.

The group project consisted of a small team of students presenting their part of the class revision notes on the scientific measurement of personality. Each group described and critiqued a specific personality assessment tool and located it within a theoretical approach. Topics were assigned at this time and chosen from a limited list of personality measures. A student comment below reveals the task was manageable.

> This project was very manageable for a group of 5 people.
> (Net Generation, External)

To provide scaffolding for the students the precise format of the online presentation was conveyed to internal students that attended the inaugural lecture and in the Assessment section of Learnline. Due to budget constraints a free-to-use wiki was set up, and a home page created and links to at least one page per group. Time was also given to address technological problems and the students acted as leaders in this respect helping each other with tips for editing a web page. Thus the authentic task provided a strategy to support the diverse needs of the student cohort to assist them in developing their skills in a digital age. The student who provided the comment below shows the importance of the editing function.

> I like the fact that each team member can edit each other's work.
> (Net Generation, External)

Knowledge acquisition

The wiki became a resource for their learning which was formalised in the peer assessment process. The student experience quoted below shows the completed wiki was subsequently used by them for reference purposes.

> I look at the wiki when I have a break in study or at my job and when I needed
> information about personality tests.
> (Baby Boomer, Internal)

> I also would like to say that the wiki was useful in that it was an extra step for us
> to learn the material.
> (Net Generation, Internal)

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It was enjoyable to view everybody's work.
(Net Generation, Internal)

Peer assessment

The peer assessment process involved both an informal and formal aspect to reflect the authentic requirements of professionals in training to be able to evaluate others. Informally, within groups, students were expected to comment on the drafts of other group members and, in turn, had their contribution evaluated in a supportive manner. This informal peer assessment as an experiential learning process between self-regulated learners had the opportunity to legitimately and openly view the developing pages of others and amend and adapt their areas in response to viewing good practice (Schunk & Zimmerman, 1998). This iterative and formative feedback encouraged peer dialogue regarding their learning and not only enhanced the overall outcome of the product but created social networks which continued into other courses of work. The cogent student experience can be seen in the quote below.

> Researching, developing the content and editing allowed us to learn what we were saying but uploading and formatting the material for the wiki allowed us to be able to edit it again and again until it was just perfect.
> (Net Generation, Internal)

The formal peer assessment was anonymous and involved both intra-group and inter-group components. The intra-group component occurred when the final project had been submitted and the contribution to the overall completed online presentation was assessed by other members of the group and constituted a 'teamwork weighting'. Interestingly in only one group did all members allocate an equal percentage to all the group members and this democratic group achieved the highest grade. Major deviations from an equal ratio pattern needed to be justified in writing and students also provided some textual feedback to their group about teamwork.

> A great team to work with!
> (Generation X, External)

> We communicated well …. Thanks team members, it was a pleasure working with you**.**
> (Mature, External)

> I felt that we all worked really well together. At times one person was doing more work than the others, however, I think we all equally contributed to the entire project. We all pulled together … it was nice to work with a group who actually shared the workload as it is not very common to find.
> (Net Generation, Internal)

For the inter-group component each student was randomly allocated two other topics to assess ensuring that all group websites were covered by multiple assessors. They were provided with a marking grid and also required to write a qualitative comment, as positive criticism, as part of an anonymous survey in Learnline. One appears below.

> The wiki was well constructed and interesting however the layout of the text meant that I had to scroll up and down to be able to read the bottom part of the

text then scroll back up to read the text beside it. All of the images used were very relative and interesting. I think the group did a wonderful job and I found the wiki engaging. I would have liked to see examples of some of the other … tests that were mentioned.   I think the team should be proud of their work! Very good work.
(Anonymous)

Conclusions and implications for future practice

This was the first time that a wiki had been used as an assessment tool by either these students or the lecturer and must be critically evaluated for its ability to offer a strategy to effectively address and assess authentic group work. Regarding outcomes, all groups completed the task to deadline. Of the ten groups formed only one had difficulties with determining roles and responsibilities and requested intervention by the lecturer. The mean mark of 63% awarded for this task (worth 20 % overall) was creditable with a median of 68 %. Six distinctions were awarded. So, generally a positive experience of the development, implementation and qualitative evaluation of an innovative and authentic learning environment in a higher education setting.

Collaborative learning experience for all
The students were mature adults with life experience and in this 3rd year undergraduate unit they already had foundation knowledge in psychology with experience in writing essays. This group task may have taken them out of a comfort zone. Like Hemmi, Bayne and Land (2009) "it was perhaps not surprising, therefore, to find that students paid quite significant attention to considering the nature of the wiki text, and to negotiating ways of working with, writing with and learning from it" (p. 27). The student experience for some was challenging and required much ego-stroking to maintain momentum whilst others report that it was a positive process, as the following quotes on their experience show.

> The wiki proved to be a new and successful means of communication for students, especially when geographical locations became an issue for effective communication.
> (Net Generation, Internal)

> For this assessment, I had a positive experience of team-work.
> (Net Generation, External)

> Those who were able to engage in the weekly meetings enjoyed to the time I think.
> (Generation X, Internal)

> Using the wiki was one of the more pleasant group work settings that I have experiences during my time of study. I certainly would enjoy using the wiki a second time.
> (Net Generation, Internal)

The composition and formation of the groups may have affected the student experience and should be noted. The number in the group might be reduced to two or three members to maintain impetus and reduce the social loafing effect (Karau & Williams, 1993). Also the groups were imposed by the lecturer, perhaps if they had been self selected or selected on a

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basis of expectation (Jerram, 2007) an even higher level of cohesion might have occurred. In the first week one group had set up a contract with roles, responsibilities and timelines whereas one student from a different group would have preferred a more structured framework for group work to be provided by the lecturer.

> Perhaps some structure and support for student "teams" like an outline providing guidance on "how to work in groups" would help.
> (Generation X, Internal)

Other positive outcomes

As participants became more comfortable with the technology then their confidence increased and they began to talk about the wiki and how they could use the technology to augment their learning (Atlay, 2007).

> I thoroughly enjoyed the wiki experience, so much so it has inspired me in other subjects.
> (Net Generation, External)

A range of other learning benefits were mentioned by the students including new skill development in researching, design, technical and editing areas.

Technology

Significantly few had very low motivational beliefs about their ability to engage with and use the wiki. These few were initially anxious and assumed, incorrectly, that their lack of IT experience would prevent them from being able to complete the task. Initially, one student had a barrier to effective interaction with the wiki and internally attributed their login problem to their technophobia. However, it was found that the issue was a compatibility problem with their home computer. A statement from another student who had login problems.

> For me the wiki was at first a very daunting prospect as I have only started using the net in the last five years. After some start up problems, perhaps caused by …
> the wiki itself was the easiest part of the process.
> (Baby Boomer, Internal)

These issues need to be addressed and in future the lecture knows the pitfalls and can advise appropriately. Students' levels of motivation have to be increased to overcome the perceived barrier that low self confidence related to IT skills imposes.

> I find the tool 'superb'. My only regret was not to be able to use it... And I was very frustrated by this since I could see the potential of it. But of course it is my fault... I am not computer literate and since I started the course late I was never quite able to catch up with this technology! So my only comment is to suggest an inservice training for students like myself at the beginning of a course.
> (Mature, External)

> I am recommending for the future that any group working on the Wiki for the first time should have access to IT support at the start of the unit.
> (Mature, External)

To improve the educational process for all more extensive training to be able to use the technology should be built in to the program. Hopefully, this will develop the skills and, more

importantly their personal confidence in using the technology. Taking advice from the students' experience the development time for a wiki should not be underestimated, and therefore the size of the task needs to reflect that. Perhaps starting with a smaller task, such as, each student creates a simple personal page, so building their confidence in wiki editing skills before the group project is introduced.

Conclusion

The implications of the development for other educators are clearly drawn. As a reflective practitioner, the lecturer, resocialised themselves as a learner to use the technology to create and moderate a wiki, as in the following comment from the lecturer:

> I learnt a great deal about the use of wikis and was so impressed with the student experiences that I have now incorporated [a wiki] into a major piece of other research to gather narratives from participants and blur the boundary between the researcher and the researched.
> (Baby Boomer, Lecturer)

The pedagogical possibilities and opportunities were considered as this collaborative, online, authentic, assessment task provided an effective learning strategy for the students, the professionals in training. Fundamentally lecturers in higher education need to engage in critical reflection about what kind of content can best be delivered through what kind of technology and rethink how they might redesign activities to deliver authentic learning and assessment.

The final value judgment about how students learn and how this technology can be used to facilitate learning can be summarised by these last student quotes.

> It was fun.
> (Generation X, Internal)

> I enjoyed the wiki!
> (Generation X, External)

> The group work was great.
> (Mature, External)

> The wiki provided a great new learning experience.
> (Net Generation, Internal)

> The idea is great, wiki concept and connecting students in discussion and groups both in person and electronically. I believe not enough interaction occurs in this manner so such a project allows for meeting and discussing class materials and sharing ideas.
> (Generation X, Internal)

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References

Adams, A. M. (2004). Pedagogical underpinnings of computer-based learning. *Journal of Advanced Nursing, 46* (2), 5-12.

Atlay, M., Lawrence, L, & Gamble, M. (2007). A Wikied Assessment Strategy. *From the REAP International Online Conference on Assessment Design for Learner Responsibility*, 29th-31st May, 2007. Retrieved February 10, 2009, from http://www.reap.ac.uk/reap07/Portals/2/CSL/t2%20-%20great%20designs%20for%20assessment/web%202.0%20pedagogic%20design/A_wikied_assessment_strategy.pdf

Bates, A.W., & Poole, G. (2003). *Effective teaching with technology in Higher Education: Foundations for success*. San Francisco, CA: Jossey-Bass.

Choy, S. O. and Ng, K. C. (2007). Implementing wiki software for supplementing online learning. *Australasian Journal of Educational Technology, 23*(2), 209-226. Retrieved February 10, 2009, from http://www.ascilite.org.au/ajet/ajet23/choy.html

Education.au (2009). *Collaboration in teaching & learning.* Report for the Strategic ICT Advisory Service, funded by the Australian Government's Department of Education, Employment and Workplace Relations. Retrieved February 18, 2009, from http://www.educationau.edu.au/jahia/Jahia/pid/693

Hilton, J. (2006). The Future of Higher Education: Sunrise or Perfect Storm, *Educause Review* March/April, 59-71.

Hemmi, A., Bayne, S., & Land, R. (2009). The appropriation and repurposing of social technologies in higher education. *Journal of Computer Assisted Learning*, *25*, 19–30.

Holmes, B., Tangney, B., FitzGibbon, A., Savage, T., & Mehan, S. (2001). *Communal Constructivism: Students constructing learning for as well as with others*. Retrieved February 11, 2009, from https://www.cs.tcd.ie/publications/tech-reports/reports.01/TCD-CS-2001-04.pdf

Holt, D., Rice, M., & Armatas, C. (2003). The emergence of an online learning community in first year tertiary studies in psychology. *Australian Journal of Educational Technology, 19*(2), 161-175. Retrieved April 1, 2009, from http://www.ascilite.org.au/ajet/ajet19/holt.html

Jerram, C. (2007). Taking the pain out of Groupwork assignments, in Enhancing Higher Education, Theory and Scholarship. *Proceedings of the 30th HERDSA Annual Conference* [CD-ROM], Adelaide, 8-11 July.

Karau, S. J. and Williams, K. D. (1993). Social Loafing: A meta-analytic review and theoretical integration, *Journal of Personality and Social Psychology, 65*, 681-706.

Kennedy, G., Dalgarno, B., Gray, K., Judd, T., Waycott, J., Bennett, S., Maton, K., Krause, K.L., Bishop, A., Chang, R. & Churchward A. (2007). The net generation are not big users of Web 2.0 technologies: Preliminary findings. In *ICT: Providing choices for learners and learning. Proceedings ascilite Singapore 2007*. Retrieved February 10, 2009, from http://www.ascilite.org.au/conferences/singapore07/procs/kennedy.pdf

New Media Consortium. (2007). *The 2007 Horizon Report*. Retrieved February 8, 2009, from http://www.nmc.org/pdf/2007_Horizon_Report.pdf

Oblinger, D. G., & Oblinger, J. (2005). *Educating the Net Generation*. Retrieved February 10, 2009, from http://www.educause.edu/educatingthenetgen/5989

Schunk, D.H. & Zimmerman B. J. (1998). *Self-regulated learning: from teaching to self-reflective practice*. New York: Guildford Press.