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INSTRUCTIONAL ARTICLE

Embedding graduate attributes through scenario-based learning

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Abstract

Traditionally, tertiary educators have followed models of teaching in which they were themselves taught, and which are still expected by many students: "in large part limited to teacher-directed, transmission-style pedagogies" (Sorin & Klein, 2002). In this model, students are passive recipients of knowledge given to them through direct instruction, and print resources such as textbooks are often implemented (Damoense, 2003).

There are problems with this passive, rote-learning approach, in that students often report a lack of connection between what is learned in university and what they come to encounter in 'real life' situations (Sorin, 2002). This lack of connection leaves many students feeling they are unprepared for their future roles. Active learning, however, including problem-based and inquiry learning, leads to "increased motivation, better critical thinking, and the integration of knowledge and problem-solving skills" (Norton, Taylor, Stewart, Blackburn, Jinks, Razdar, Holmes & Marastoni, 2012, p. 1083). Scenario-based learning (SBL) is an important component of a number of active learning strategies (Norton et al., 2012).

The following article documents the collaborative efforts of a team of educators who have challenged traditional teaching methods by implementing an approach known as SBL, a technique which affords learners a more active role in their learning. Norton et al. (2012) note that as active participants in the scenarios, learners "are required to make decisions, which can offer penalties or rewards and open up, or close off, various future options" (p. 1084). Specifically, the paper examines how the authors adapted their teaching repertoire to include scenario-based situations, incorporate the university's graduate attributes and, in doing so, enhanced both teaching and learning in their subjects.

INTRODUCTION

Adult educators' jobs are to transform; our "responsibility is to help learners reach their objectives in such a way that they will function as more autonomous,

socially responsible thinkers" (Mezirow, 1997, p. 8). Traditionally, tertiary educators have followed models of teaching which were "in large part limited to teacher-directed, transmission-style pedagogies" (Sorin & Klein, 2002). In this model, students are positioned as passive recipients of knowledge given to them through direct instruction, and print resources such as textbooks are often implemented (Damoense, 2003).

There are problems, however, with this passive, rote-learning approach, in that students often report a lack of connection between what is learned in university and what they come to encounter in "real life" situations (Sorin, 2002). Many students feel they are unprepared for their future roles upon completing their studies, bringing to light a statement issued over 80 years ago, "A university is imaginative or it is nothing – at least nothing useful" (Whitehead, 1929).

Active learning, of which scenario-based learning (SBL) is an important component, leads to "increased motivation, better critical thinking, and the integration of knowledge and problem-solving skills" (Norton et al, 2012, p. 1083). Kindley (2002) agrees, noting that we are moving from traditional forms of knowledge acquisition to more fluid forms, where "learners are able to assess situations and react appropriately". For many of the authors, traditional teaching methods had been commonly used to transmit knowledge to students, requiring little of them but the completion of compulsory readings and some application of what they had learnt in tutorials. This is similar to Thompson (as cited in Errington, 2003), who noticed that in his subjects, students' demonstrations of knowledge were little more than "definitions and content of a paper with minimal reflection" (p. 74).

The five authors, from different disciplines across the university, all became aware that new ways of "doing teaching" needed to be trialled to provide the types of learning from which student and lecturers would gain a deeper experience (Caltabiano as cited in Errington, 2010). The opportunity to initiate this change arose in the form of a university grant, and a partnership was formed between the educators, from the disciplines of Education, Psychology, Social Work, Indigenous Australian Studies and Teaching and Learning Development. SBL, which had been trialled by all previous to this research, was the approach collaboratively selected by the team, to assist students to take a more active role in their own learning.

Kindley (2002) notes that "knowledge cannot be known and fully understood independent of its context" (p. 1). SBL involves situating learning in "real world" contexts (Errington, 2010) which, according to Lave and Wenger (1991), is an important component of knowledge acquisition. Situated Learning Theory posits that learning is comprised of activity and the context and culture in which it

occurs. Learners become part of a "community of practice" acquiring beliefs and behaviours of the community as they move from beginner at the periphery to expert (Lave & Wenger, 1991). SBL provides a strategy for getting students closer to the realities of their intended profession/community of practice through the construction and reconstruction of authentic learning experiences (Errington, 2011). "Students often assume specific roles, and/or at least consider perspectives that will allow them to explore the scenario from a range of vantage points" (Errington, 2010, p. 51).

Scenarios present hypothetical situations that are reflective of "real world" issues likely to be encountered professionally. They can be used to prepare students to reflect on and trial ways of responding, thus equipping them with the skills necessary to succeed in their future endeavours (Sorin as cited in Errington, 2010). While preparation involves considerable work, the rewards to learners include: deeper learning through sharing knowledge in a community of learners; strong links made between theory and practice; and a chance to safely "practice" the roles for which they are preparing (Akins & Crichton, 2003).

Errington (2005) notes that there are four types of scenarios: skills-based scenarios to demonstrate acquired skills and knowledge; problem-based scenarios to refine acquired skills, identify and pursue problems; issues-based scenarios to investigate and debate relevant professional issues; and speculative scenarios to apply knowledge to hypothetical professional situations. This research offered us possibilities to reflect on, expand and improve our teaching practices in the multiple areas of SBL.

Within the group, scenarios were used in a variety of ways, to explore specific professional topics in undergraduate subjects. For example, skills-based scenarios were used to teach clinical diagnostic skills in a Psychology subject. Students were given short case descriptions in class, and were asked to work in small groups to classify the psychological disorder, based on what they had learned through readings and lectures.

Problem-based scenarios were presented to online Education students, in the form of a narrative about a child being bullied by his classmates. They were asked to put themselves into the position of the classroom teacher, and to resolve the issue for the best outcomes for the victim, bullies and the class. Support materials, to help students engage with the scenario, included factual information about bullying, links to relevant websites, and podcasts of conversations between the victim and his mother, and between the mother and the classroom teacher.

Community welfare students were presented with an issue-based scenario: the issue of truancy and crime amongst Indigenous students. In class they took on

the role of a stakeholder in the community (such as Mayor, Government Health Officer, Police Liaison Officer) and the various stakeholders were asked to convene a community meeting to discuss the issues and come up with strategies to address them.

Students of Indigenous Studies were given a speculative scenario as a summative task in an introductory subject. In class they were presented with an invitation from the Minister for Education to participate in a National Think Tank to design an Indigenous awareness university subject that would be compulsory for all students.

RESEARCH PROCESS

Graduate attributes – the qualities and skills that the university hopes its students will develop as a result of their university education – are important foci within our university. They cover the areas of literacy and numeracy; information literacy; critical thinking and problem solving; self-reliance and interpersonal understanding; using tools and technologies; and learning achievement. These attributes are supported by qualities such as exemplary personal and professional moral and ethical standards; an understanding of regional issues; and a sense of professional, community and environmental responsibilities (http://www.jcu.edu.au/policy/allatoh/JCUDEV_007031.html). Graduate attributes and qualities frame our teaching and learning and are made explicit within subject content and assessment. To address them within subject teaching, the authors chose to add SBL to their suites of teaching strategies to engage and to support students in developing deep understanding. SBL, through its process of action or "doing", is a good method for "fostering thinking and encouraging creation, cooperation and reflection towards discerning analyses of approaches and problems" (Ireland as cited in Errington, 2010, p. 177). Van der Heijden (2002) argues that SBL is an excellent approach for identifying issues and offers a format for developing ways to respond to these issues.

Our research project, *Embedding graduate attributes into four discipline areas using scenario-based learning,* arose from our recognition of the importance of authentically incorporating graduate attributes into our subjects and from our interest and previous experience in SBL. The project was funded by an internal *Work Integrated Learning* grant. There were three research goals generated for the project: (1) to enhance current work-based offerings designed to embed graduate attributes through employing SBL processes; (2) to generate support materials for academic staff wishing to embed graduate attributes using SBL; and (3) to disseminate the project by engaging and enhancing staff input within/across the five discipline areas.

The research component was situated in the first goal of enhancing our work-based offerings. For this component, a reflective Action Research design resonated strongly with the researchers' goals to promote improvement, change and development (Robson, 2002) in their teaching practices. According to MacNaughton and Hughes (2009), "Action Research is a cyclical process of 'think-do-think' to research and create change. We think about what we do at present, then we do something to create change, then we think again about what we've done and its effects" (p. 1). As Action Researchers, we felt that we could help to create change for better practice in our various professions, and we wanted to make a difference to our students' learning (Ibid, 2009). The key techniques in this Action Research process were: strategic conversations; peer review; student feedback; and extensive critical reflection and analysis by each researcher. Each of these techniques is elaborated below.

Strategic Conversations

The research process began with strategic conversations as a means of allowing researchers to reflect on their own SBL practices and to be introduced to the SBL practices of other researchers. The researchers discussed how they used scenarios to embed graduate attributes in their subjects, and any initial feedback or reflections they had had from the process. Van Notten (2005) suggests, "The process of scenario development provides a language to cross disciplinary boundaries. In organisations, it may provide a basis for 'strategic conversations', to discuss perceptions on strategy, opportunities, and threats" (p. 71). During these conversations, the authors sought to develop a common language for the research being undertaken and to evaluate processes and outcomes of the research. Strategic conversations continued throughout the process of the research, often informally at critical moments or as a result of peer review.

Peer Review

A peer review process followed initial strategic conversations, whereby each researcher received feedback from all other team members regarding their SBL teaching and learning practices. Peer review is the process of evaluating the performance of colleagues in a similar field, to enhance quality of that performance (http://www.linfo.org/peer_review.html). It is often used at tertiary institutions as a performance enhancement tool. As a team, we had "a wealth of teaching and learning experience at all university levels so that respective peer reviews were rightly anticipated to be rich and productive" (Errington, Ireland, Nickson, Sorin & Caltabiano, 2011). In this research, peer review included having access to scenario teaching materials and/or and attending classes where scenarios were being implemented.

Feedback for each researcher was targeted to areas in which the individual wanted further development. Overall it included: content (quantity and quality); lecturer input (assistance and intervention); assessment of SBL; and alignment of scenarios with graduate attributes. Table 1 gives examples of the kind of feedback researchers requested.

Student Feedback

Student feedback was the third technique implemented. It served to enrich researchers' reflections on the efficacy of SBL in a university setting. Feedback about SBL was obtained from students through formal, university-administered feedback surveys, and informally though verbal and online discussions, where input could be given anonymously. Table 2 provides examples of student feedback questions from informal surveys.

Critical Reflection

"To reflect on our practice is to be curious about what we're doing, why we're doing it and what its effects are; and it also involves trying to think openly about our past and present practices in order to improve on them" (MacNaughton & Hughes, 2009, p. 98). In Action Research, it is a process of interpreting and re-interpreting elements of practice for the purposes of professional change (Ibid, 2009). With a desire to make a difference to our practices and a genuine

Table 1. Examples of peer review questions

Area	**Questions**
Content	Are there too many scenarios? Should I cut back and give more time to each? Were introductions and instructions for scenarios clear and easy to follow? Did the scenarios and support materials offer too much or too little detail? Should video clips be included?
Lecturer Input	How much or how little should the lecturer get involved in the scenario?
Assessment	Should assessment offer both individual and group opportunities to demonstrate learning?

Table 2. Examples of student feedback questions from informal surveys

What did you know about and what experiences had you had with the issues in the scenarios before the scenarios were presented?
What have you learned from participating in the scenarios?
How has your learning from the scenarios impacted upon your professional practice?
What are your thoughts about learning through scenarios?

interest in SBL, much of our analysis of data was through critical reflection. This took the form of researchers' journals, which we kept individually, reiterating feedback from peers and students and working through it based on our growing understanding of SBL.

Data Analysis

Data were analysed through critical reflection and coding to produce emergent themes from within the data. MacNaughton and Hughes (2009) noted that researchers could simplify and standardise data by assigning labels to groups of data, thus reducing the quantity. Table 3 illustrates some of the themes that emerged from the peer review process for one researcher.

Table 3. Emergent themes from the peer review process

Number of scenarios	Introduction and instructions	Scenario and support materials
Cut back number (5 to 4) More time to each scenario	Clear Well-considered Stick with term "scenarios" Debriefs important	Quality not quantity of information Present in segments Good focus questions Don't overwhelm with too much material

The processes of strategic conversations, peer review and critical reflection provided the researchers with rich data. Having identified emergent themes, the data were further analysed and interpreted based on these themes.

FINDINGS AND DISCUSSION

The impact of strategic conversations, peer review, student feedback and critical reflection on the researchers' implementation of SBL and its overall efficacy was deep and far reaching, reframing and enhancing our subjects and how they embedded graduate qualities. Each researcher found that their use of SBL increased in both quality and quantity. Further, the redesigned scenarios were the basis from which we were able to accomplish our second goal – to generate support materials for academic staff wishing to embed graduate attributes using SBL. These included video clips to be used in conjunction with other support materials to give breadth to scenarios; and videos and information about SBL on a university teaching and learning website, which is accessible to staff, students and the community at large.

Once we had analysed our findings and generated these materials, we began to work toward our third goal – disseminating the project through numerous presentations, both internally and at conferences and through publications.

Strategic Conversations

As mentioned above, the first technique used by the researchers to reflect on their practices was strategic conversations. Specifically, the conversations focused on how scenarios used aligned with the university's graduate attributes, which was the first goal of the research project. Graduate attributes such as teamwork, critical thinking, ethical understanding, clear communication and professional literacy go beyond specific disciplines. The first author noted in her reflective journal:

> *"Strategic conversations were a good way to start the [research] process. While getting to know each other, we had a sort of 'orientation' into each person's scenario-based teaching practices, and some idea about their beliefs and thinking in implementing this approach".*

Strategic conversations assisted the researchers to articulate which graduate attributes were being addressed in their scenarios and, in some cases, to modify scenarios to better address selected graduate attributes.

Peer Review

The second technique – peer review – involved providing open access to the other researchers' subjects so that we could comment on the subject content, lecturer input, assessment and the extent to which graduate attributes were embedded. Both written and oral feedback was gathered to allow peers to respond to each others' comments.

In general, the group reflected that scenario content prepared students with the necessary skills for likely and relevant career-based experiences. As a researcher commented "*SBL is extremely useful in engaging students in learning the necessary skills (not just content) for professional practice*". Additionally, the researchers discussed finding a balance between quantity and quality of provided content, stressing a desire to have learners locate independently, via research, role play and video and multimedia resources, additional useful information. As one researcher wrote, *"A better focus than the amount of detail is the quality of detail. What is essential? What might be left as a 'red herring' to force students into decision-making?"*

Other peer feedback included that the central character of generated scenarios

needed to be diverse – in terms of gender, socio-economically and culturally – to prepare students adequately for any future experiences. This advice was well-received, particularly in areas such as Early Childhood Education, which is still largely a female-dominated profession (Sanders, 2002 cited in Wardle, n.d).

"Minimal" was the key word used to describe the ideal lecturer input when implementing SBL. Nickson (cited in Errington, 2010) noted that her role as a teacher changed through SBL to that of a facilitator and an enabler. The general consensus was that learners would benefit more, if lecturers only assisted by giving procedural instructions or intervening when necessary. One researcher said, *"I would facilitate as needed – feeding back points made – indicating/ affirming emergent issues, helping to draw conclusions – providing opportunities for reflection/thinking outside the square/ validating arguments, etc.*"

Cutting back on lecturer input proved to be quite difficult for some of the researchers, which may be due to the direct instruction methods previously used. As the first author reflected, "*It would be easy for me to intervene and even take over the learning process. After all, having written the scenarios, I know a lot about them, and I have had a lot of experience as a teacher. But I need to step back and give learners more agency*".

In terms of assessment, although the team supported assessment of individual tasks, they also felt that group work required assessing, particularly when the SBL process required students to work in small groups, prior to completing individual tasks. One of the researchers commented: *"As the activities appear to be group-learning based, I believe that the group response should be assessed.*"

"Real world" assessment tasks were supported by all researchers, as a way of adding to the learning. For example, undergraduate teachers could write a report for the school principal, an acceptance speech for a practice award, or a letter to parents; tasks they would naturally undertake as a practising teacher. High importance was assigned to assessment criteria being made very clear to the learners, and being reflective of graduate attributes.

Researchers' reviews of embedding graduate attributes highlighted that these attributes were more deliverable when they were assigned to one specific scenario, rather than trying to address all of the attributes in each, individual scenario. One researcher advised, *"I would look to the obvious Graduate Attributes and deliberate on how each scenario can facilitate Graduate Attributes and learning outcomes/ intentions via well-chosen focus questions.*"

Essentially, the peer review process of scenario content, lecturer input, assessment and graduate attributes allowed researchers to not only refine their

SBL teaching practices prior to but also during subject delivery. This was thought to generate a more satisfactory teaching and learning experience for all involved as demonstrated by the student feedback.

Student Feedback

Student feedback for the 2010 delivery, across all five university disciplines, was generally positive, demonstrating deep engagement and learning through SBL.

Students described scenarios as being "*relevant*", "*realistic*" and "*informative*", to their disciplines and their current and future practices. As one student stated "*In each of these topics, there is (sic) wide and far reaching implications, not just for teachers and schools, but for the wider community in dealing with sensitive issues*". Another noted that, "*the opportunity to work through scenarios in Pyschopathology tutorials enabled me to match theory to practice in a way that has given me unique insight as to what my role would be once I become a clinical psychologist*".

Many students commented on the different roles they were asked to adopt, making them active, rather than passive learners. One student commented, "[SBL] *gave me an opportunity to be in my own learning and be responsible for my own professionalism*". Other feedback centred on the lecturer being "*supportive*", "*available*" and "*understanding*" while students actively engaged in their learning, rather than domineering and all-knowing. This demonstrated a shift in perceptions from students as passive recipients of knowledge to students as active and in control of their learning.

Redeveloped assessment, which included both group and individual tasks based on scenarios, also received positive feedback. An Indigenous Studies student commented: "*The use of SBL as an assessment provided an opportunity to feel that I can actually stand in front of my bosses and promote the case for using Cultural Diversity effectively*". Additionally, many learners recognised the relevance of their assessment to their actual career prospects. Assessable group work, however, was still seen as problematic by some students. For example, one commented: "*Group work was difficult. Students wouldn't start discussing until the final week...I liked everything except group work*".

While students were not directly questioned about graduate attributes, their engagement with scenarios, interactions with each other, and the quality of assessments they produced indicated that SBL was effective. SBL seemed to help them to think critically, to analyse and evaluate claims; to reflect on and evaluate their learning; to learn independently in a self-directed manner; to contribute effectively to teams; and to move toward having a sense of their

professional responsibilities. If we measure these attributes, alongside the students' comments, it seems evident that the researchers efficiently embedded graduate attributes in their subjects, using SBL.

Critical Reflection

Action Research consists of both action and reflection (MacNaughton & Hughes, 2009), and we found the researchers' reflective processes to be essential to the research. We kept individual journals, sharing our journal ideas with peers and then further reflecting on them individually. Our reflections were used alongside information from strategic conversations, peer reviews and student feedback to help us evaluate our actions and determine changes to our practice. One reflection was: "*X suggested offering the students fewer support materials, so they would have to find the information on their own. Not sure how I feel about this – Am I avoiding responsibility as the lecturer by making them find the information on their own?*" After implementing the new strategy, the researcher wrote: "*No one complained about not having enough information. Instead, students shared ideas on Discussion Board about how to access relevant information. They came up with some really creative ideas.*"

Summary

Overall, students seemed to find SBL beneficial to their learning. Comments included: "*[SBL] was an engaging, challenging method of investigating the subject matter that develops life-long learning skills and attitudes*" and "[through SBL I learned] *how to work through decisions ethically so that all impacts have been considered before making a decision*".

As a result of this research and its generally positive findings, all five researchers have further developed and enhanced their practice in SBL. SBL is now a part of the university's teaching and learning website, and includes videos and information about how to use SBL in teaching and learning; accessible to both internal and external audiences (http://www.jcu.edu.au/teaching/scenario). This web information has helped the researchers to fulfil their second goal of generating support materials for staff wishing to embed graduate attributes using SBL. An SBL interest group has been established as part of the university's Teaching and Learning Academy, and we are all members. Our final goal, which is to disseminate our findings and information, continues to be achieved through presentations throughout the university and at various conferences as well as journal publications, documenting individual's and team's experiences. All authors strongly support the use of SBL as a teaching and learning tool.

CONCLUSION

Implementing SBL to embed graduate attributes and redeveloping it through strategic conversations, peer review, student feedback and critical reflection has transformed university teaching practices for all five researchers/authors. While we are aware that ongoing refinement and reflection is necessary for better teaching and learning, we note that enhanced scenarios and the shifts in students' roles from passive to agential in their learning are evidence of the positive impact of SBL. As educators we feel that through SBL we are instilling in our learners practical skills that they can apply in their professional lives. One student commented, "*I feel privileged to have participated in this form of education and a lot more knowledgeable and prepared if ever faced with similar situations*". This is how the authors believe all students should feel within the university setting and we look forward to further explore the potential of SBL, as a tool for continued improvement in teaching and learning.

REFERENCES

Akins, M. & Crichton, S. (2003). *Scenario based learning – Geography in the field using GIS/GPS for curriculum integration*. National Educational Computing Conference, Washington, USA.

Damoense, M. Y. (2003). Online learning: Implications for effective learning for higher education in South Africa. *Australian Journal of Educational Technology, 19*(1), 25-45.

Errington, E. (2003). *Developing scenario-based learning – Practical insights for tertiary educators*. Palmerston North, New Zealand: Dunmore Press.

Errington, E. (2005). *Creating learning scenario*s. Palmerston North, New Zealand: Cool Books.

Errington, E. (Ed.). (2010). *Preparing graduates for the professions using scenario-based learning.* Mt. Gravatt, Qld: Post Pressed.

Errington, E. (2011). As close as it gets: Developing professional identity through the potential of scenario-based learning. In N. Jackson (Ed.), *Learning to be professional through a higher education*. Surrey, UK.

Errington, E., Ireland, L., Nickson, A., Sorin, R., & Caltabiano, M. (2011). Embedding graduate attributes into four discipline areas using scenario-based learning. *CDTL Brief*, Singapore: National University of Singapore. 14(4), pp. 21-28.

Kindley, R. (2002). *Scenario-based e-learning: A step beyond traditional e-learning.* Available from http://www.learningcircuits.org/2002/may2002/kindley.html

Lave, J., & Wenger, E. (1991). *Situated learning – Legitimate peripheral participation*. Melbourne: Cambridge University Press.

Macnaughton, G., & Hughes, P. (2009). *Doing action research in early childhood Studies – A step by step guide*. Berkshire, England: Open University Press.

Mezirow J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 5-12.

Norton, G., Taylor, M., Stewart, T., Blackburn, G., Jinks, A., & Razdar, B. (2012). Designing, developing and implementing a software tool for scenario based learning. *Australasian Journal of Educational Technology, 28*(7), 1083-1102.

Robson, C. (2002). *Real world research*. (2nd Ed). Oxford: Blackwell.

Sorin, R. (2002). Bridging the gap – the impact of a preservice teachers' network on the developing early childhood teacher. *Challenging Futures Conference Website*. Available from http://www.aare.edu.au/02pap/sor02045.htm

Sorin, R., & Klein, M. (2002). Walking the walk and talking the talk – adequate teacher preparation in these uncertain times? *Australian Association for Research in Education 2002 Conference Proceedings.* Available from http://www.aare.edu.au/02pap/sor02045.htm

Van der Hiejden, K. (2002). *The sixth sense: Accelerating organisational learning with scenarios*. New York: John Wiley & Sons.

Van Notten, P. Scenario development: a typology of approaches. In OECD (Ed.), *Schooling for tomorrow think scenarios, rethink education*, OECD Education & Skills, 2006(6), July 2006, 66-92.

Wardle, F. (n.d.). Men in early childhood: Fathers & teachers. *Early childhood news: The professional resource for teachers and parents.* Available from http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=400

Whitehead, A. N. (1929). *The aims of education and other essays.* New York: Macmillan.