Scenario-based learning: Transforming Tertiary Teaching and Learning

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Abstract

This paper documents the evolution of an online teaching program based on authentic learning and utilising Scenario-based learning (SBL) as a teaching tool. SBL, where students are presented with situations derived from actual classroom practice, affords learners a more active role in their learning and the opportunity to develop real life skills outside the institution; in order to operate successfully in the global arena. By participating in scenarios that target teaching dilemmas worldwide, students gain experience and understanding that can be transferred to various international educational contexts.

Introduction

Early Childhood Education students often experience a theory/practice divide between their university studies and actual classroom practice (Sorin & Klein, 2002). While up to 100 days over four years are spent in professional experience classrooms, students still report entering the profession underprepared for the everyday life of a teacher in a global society (Ibid). However, it is critical that students develop these real life skills in order to operate successfully as teachers in the global state. This is challenging enough, but was further challenged by delivering subjects in an online learning environment, where face-to-face contact with students is minimal at best; and learning is dependent on student motivation and engagement. Despite the challenges, online learning is an important component of global education. Grummon (2012) notes that outcomes from online learning are "at least the equivalent, if not better, than the outcomes of face to face courses" (p. 56).

Mezirow (1997) reminds us that as teacher educators our job is to transform; "to help learners reach their objectives in such a way that they will function as more autonomous, socially responsible thinkers" (p. 8). Learners need to be guided to think critically, participate in meaningful dialogue with others and challenge long-held assumptions and beliefs. Traditional modes of teaching, such as lectures and other forms of teacher-centred learning, are limited in their scope to provide opportunities for transformative learning, so other methods need to be trialled and employed (Ibid).

Scenario-based learning (SBL) presented as a possible solution to this dilemma. In SBL students are presented with hypothetical situations derived from actual practice and asked to immerse themselves in the situation and solve the dilemma. SBL affords learners a more active role in their learning and the opportunity to develop and practice real life skills that they will need to operate successfully in the global state. According to Errington (2011), "scenario learning processes usually incorporate the exploration of true-to-life tasks, encounters with realistic challenges and work-based role engagement" (p. 184).

SBL is not a substitute for actual work experience, but a way of supplementing it (Errington, 2011) within the classroom learning context. In this case, it was an approach selected and developed within the online teaching environment of an Early Childhood Education and Care subject for third year students. Clegg, Hudson and Steel (2003) note that, "Academics have been able to draw on their own pedagogic repertoires, practical wisdom and relative control of the curriculum to shape the ways in which innovation is implemented. If we are to understand the impact of technologies on pedagogy we need to take account of these local conditions and the range of possible responses to particular pressures, rather than rely on over-deterministic accounts of global tendencies" (p. 40).

In this university subject, students were presented with problem-based scenarios of teaching dilemmas worldwide; asked to take on the role of the early childhood teacher; and challenged to find solutions to problems presented. Errington (2011) emphasises that "it is crucial that aspiring professionals are able to envision and explore alternative futures – to develop the kind of flexibility needed to tackle events and issues from a professional perspective" (p. 5). The aim of these problem-based scenarios was for students to gain experience and understanding that could be applied to a variety of early childhood educational contexts locally, nationally and internationally.

Scenario-based learning (SBL)

Based on situated cognition (knowledge is acquired and understood within its context) SBL situates learning in real world, authentic contexts that are important components of knowledge acquisition (Lave & Wenger, 1991; Kindley, 2002). Damoense (2003) notes, "an authentic learning environment will promote connectedness to the real world because projects are based on real world issues and challenges, and are related to learners' interests" (p. 28). Scenarios are designed to engage learners in processes of problem-solving, decision-making, critical thinking, generating perspectives, and acting creatively in relation to assumed roles, responsibilities, dilemmas and challenges of the professional culture (Errington, 2010). They can be safely explored within the classroom context and are often written or told as narratives.

In teacher education, scenarios permit learners to safely explore situations they might face in their future classrooms (Alessi & Trollip in Hunter, 2009; Aitken in Errington, 2010); to apply theory to practice; and to help develop learners' professional identities (Errington, 2011). They immerse learners in a situation, as they take on roles, engage, think deeply, collaborate, make decisions and create options for solving the problems presented in each scenario. This process encourages learners to communicate and collaborate effectively, demonstrate mature perspectives, and elicit ethical behaviour - in the shared pursuit of personal and professional development (Errington, 2010).

According to Errington (2005), 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 study incorporated problem-based scenarios, utilising problems that an early childhood teacher could face in their careers.

A scenario-based approach suits problems that could have multiple solutions (Akins & Crichton, 2003), such as the professional dilemmas teachers face in everyday teaching. They offer teacher educators a creative challenge: to develop a story with a dilemma, gather supporting materials and give direction for further investigation. Stewart (in Errington, 2003) notes that in creating scenarios, he uses "a 'subset of reality' with places, objects and people that tend to exist in the real-world environment" (p. 84). Errington (2011) notes that scenarios help students to deal with uncertainty, but that "this very uncertainty can also render scenario-based learning some of its motivational appeal" (p.3). While preparation involves considerable work, the rewards to learners include: deeper learning through sharing knowledge in a community of learners; forging stronger links between theory and practice; and a chance to safely practice the roles for which they are preparing (Akins & Crichton, 2003).

Methodology

According to Kindley (2002), "scenario-based learning best fits an open philosophy of blended and multiple learning solutions in which change and experimentation are valued and

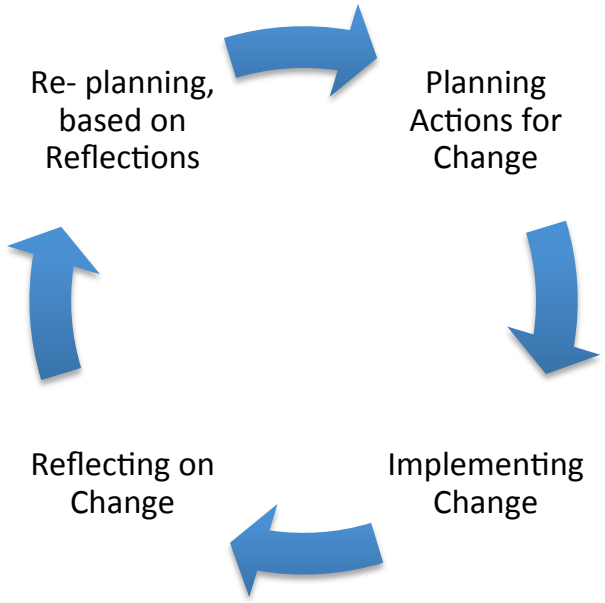
the lines between training, performance improvement, and organizational development are blurred." This research draws upon Constructivist Theory, where new understandings are constructed based on past and current experiences; and Engagement Theory, where learners are challenged with authentic problems, in which they construct; interact with other learners and instructors; collaborate in teams; and solve problems (Damoense, 2003). Stewart (in Errington, 2003) notes that a problem-based scenario "provides a constructivist learning environment rather than an instructivist one" (p. 83). Within this paradigm, Action Research was the chosen methodology. Akins and Crichton (2003) suggest that action research is ideal for the creation of a scenario-based approach to learning.

McTaggart (1992, in MacNaughton and Hughes, 2009) reports that, "action research increases our understanding of what we do and why we do it (p. 10). It is usually practice-oriented and leads to transformed and improved practices and new knowledge (MacNaughton and Hughes, 2009). It is a cyclical process, which involves both reflection and action, as various actions are trialed and implemented, then reflected upon and new ideas developed and trialed (Ibid).

MacNaughton and Hughes (2009) suggest a four-phased approach to action research: choosing to change; planning for change; creating change; and sharing the lessons of change. Within the planning for and creating change phases, one or more cycles of action research can occur. Each cycle involves planning actions for change; implementing the change; reflecting on the change; and re-planning for change, based on reflections. Table 1 (below) shows the phases and the action research cycles.

Table 1. Action Research Phases and Cycles (based on Mac Naughton and Hughes, 2009)

Action Research Phases			
Choosing to Change	**Planning for Change**	**Creating Change**	**Sharing the Lessons of Change**

I identified a problem – that I was dissatisfied with traditional teaching and wanted to trial different methods	 **The Action Research Cycle**	*Presentations , publications and web-based information about SBL.*

In the first phase, 'Choosing to change', practice is examined and a focus area for change identified, based on something the researcher identifies as needing change. The dissatisfaction with traditional, text-based teaching and the isolation it can cause for students between university studies and classroom teaching triggered the need for change in this research. I wanted to trial more engaging methods that would more closely relate university studies to teaching in schools. My research question became, "How can my pedagogy relate better to real life classroom practice in a way that engages and motivates students?" In further action research cycles, as the research progressed and the focus became scenario-based learning for student engagement and connectedness with the classroom, the question changed to "How can I best design and implement scenario-based learning?"

The second phase was 'Planning for change'. During this phase I sought new information, from text and web-based sources, (MacNaughton and Hughes, 2009) as well as from colleagues and experts in early childhood education. Having spent many years in academia, with only brief periods in early years classrooms, their input was invaluable. Stewart (in Errington, 2003) advises to "enlist the help of experts if needed. If possible the exercise should be constructed by, or with the aid of, people who have actually 'been there and done that'" (p. 85). Further, Errington (2011) states that "degrees of authenticity and relevance perceived within the scenario depend very much on students' perceptions of the teacher's 'professional' currency and his or her familiarity with the professional culture" (p. 7).

I selected topics, information to be included in scenarios, support material for the scenarios, and issues to be resolved. I wrote detailed scenarios, based on individual recounts, research and information acquired. I sought feedback from colleagues and students and began to critically reflect on my practice, "in order to challenge any social habits or customs that prevent us from changing it" (Macnaughton & Hughes, 2009, p. 99). For example, in one action research cycle I received feedback from colleagues about limiting the amount of

information and input I provided in scenarios. They felt that limiting information and presenting incomplete scenarios gave students more ownership of the scenario, as they were required to put in the effort to seek and make sense of information to support the scenario. Errington (2011) agrees, stating that "unlike stories, scenarios are usually presented 'incomplete'. Upon reflection, I re-planned the scenarios, using this strategy.

The third phase was 'Creating change'. During this phase, changes are introduced and data gathered about the changes. Throughout the action research cycles, data were collected through feedback from colleagues, largely through a cross-disciplinary collaboration with lecturers from other disciplines; feedback from students, through university surveys of subjects and teaching; anonymous feedback in the online Discussion Board; unsolicited emails from students; and informal conversations with students.

Data were coded to simplify, standardize and reduce the quantity of information (Mac Naughton and Hughes, 2009). This process is often intertwined with data collection "because you need to interpret what has happened so far in order to decide what to do next" (Ibid. p. 175). Themes that emerged were analysed and reflected upon in relation to information gained from text sources and previous cycles. Through this process, deep and broad understandings of the data were developed and further changes sought and trialed.

When colleagues suggested that I should limit my involvement and input in the scenarios, I was at first skeptical. However, after much reflection and reading, it was a change I implemented. It was also one that I evaluated, through data collected from students as well as further reading and reflection. I decided that limited involvement was a strategy that could keep students engaged and active in the scenarios, so it was one of the changes that I implemented, reflected upon and found to be successful.

Mac Naughton and Hughes' (2009) fourth phase was 'Sharing the lessons of change'. This phase involves drawing conclusions from the research and sharing them, in the forms of papers, presentations and collegial discussions with colleagues and students. This paper is one of the ways I am sharing my lessons of change. Other ways have included presentations nationally and internationally, alone and with my cross-disciplinary colleagues; videos created about our collaborative project; and a university-based website about scenario-based learning. Findings are elaborated below, with particular focus on scenario content; lecturer input and assessment of scenario-based learning.

Findings

Based on comments such as: *"As much as our Bachelor of Education course is comprehensive and in-depth, it cannot hope to expose us to the myriad of emotive and contentious issues we will no doubt be exposed to even within the first few years of our teaching career,"* I chose change my teaching practice by introducing Scenario Based Learning (SBL) into an online Early Childhood teacher education subject as a way of bridging the gap between theory and practice and exploring real life issues that can occur in everyday early childhood teaching.

These were issues that were not generally covered in textbooks, but many early childhood professionals nonetheless experience that: Ethics, Child Protection, Bullying, Partnerships and Brain Development. They were chosen based on current research and on extensive consultation with the early childhood professional community.

Each issue begins with a narrative story, based on actual experiences reported by early childhood professionals. Narratives present problems or dilemmas, to be worked through by students (in their roles as the teacher in each scenario) as part of their assessment for the subject. For example, the Ethics scenario reads:

> *It is your first year of teaching and you are in a Year 2 team teaching classroom of 45 active children. Michael, your team teacher, has been teaching at the school for 8 years and is a popular member of staff, both with other teachers and with the principal. You often hear comments about how great it is to have a male teacher in an early childhood classroom.*
> *Michael is welcoming, but after three or four months, you begin to question some of his practices. While you do some planning together with Michael, he often doesn't prepare the lessons he has agreed to do, saying it is good practice for you to learn to "wing it". After lunch, he often switches on the television set, allowing the children to watch children's programs "because they're too tired to do anything much after lunch, anyway."*
>
> *In the staffroom, Michael often remarks about the "hyperactive sole parent-type kids" or the "really hot" young teachers. An Indigenous mother on tuckshop roster told you that last week when Michael went to the tuckshop to by a pie, he tried to joke with her about the "little black kids who never seem to bring their lunch, their homework, or a hat."*
>
> *At times, Michael leaves you alone with the group while he leaves to do personal business. Yesterday he had to pay his VISA bill so left you alone with the 45 children. You tried your best to keep them busy, but didn't notice when young Jared went missing, that is, until the little boy was returned by two parents who found him roaming in the playground. They made a comment that implied that you need better control of the class.*
>
> *You have tried to talk casually to Michael about some of these issues, but he just laughs them off, saying that you need to chill out more. You think that if you talk to another teacher or the principal, you might be labelled a "dobber". But you have a strong commitment to social justice and best practice issues and don't feel that this situation is good for the children.*

Narratives are supported by information such as related articles, anecdotes, children's work samples, policy documents, podcasts, videos and websites related to the topic. Stewart (in Errington, 2003), states that "video, sound and images simply add to the realism of the scenario" (p. 89). But the information is purposely incomplete, as would be the case in 'real life', where teachers are privy to some, but not all information. It is here that previous knowledge and experience becomes valuable and valued, and further information can be accessed from a variety of sources. There are no set answers or pathways to solutions. Students work through the information individually and in small groups, and come up with

solutions, which are then presented to the class, commented on and edited for submission for assessment purposes. Each scenario includes a debrief discussion, where "analysis and recommendations are critiqued and/or feedback given" (Stewart in Errington, 2003, p. 90).

Throughout the action research cycles, from 2009 – 2011, a number of changes were planned and implemented. The change process involved peer review, critical reflection and student feedback. For the most part, changes occurred in the areas of: scenario content; lecturer input and assessment of scenario based learning. Each of these areas is discussed below.

Scenario Content

"The writing of the scenario – its plot – its authenticity when benchmarked against real world events – the opportunities for decision-making – and the selection of well chosen (not stereotypical) characters are essential ingredients for optimising scenario learning success" (Errington, 2011, p. 11). Most students considered the scenario content to be interesting and relevant to real life situations; a *"good start to thinking about what actually could happen at school."* One student noted, "*The [support] information was all very interesting and related to the topics well."* Colleagues reported that the introduction and instructions for each scenario were clearly explained. Further, one said, "*The child protection scenario and supporting information are relevant to future teaching experiences. There is a lot of useful information in this scenario."* Other colleagues commented favourably on debriefs that follow each scenario, as a way of exiting the scenario situation.

But while content was considered appropriate, it was suggested that the number of scenarios and amount of detail given to support each scenario be cut back, to allocate more time to each scenario and to focus on the quality of information presented, while allowing learners to locate more of the material themselves. One said, "*Don't overwhelm [the students] with too much material."* However, a few students disagreed, stating that more information was needed:

"Scenarios needed more information as most of them required a lot of assumptions, such as children's age, how long they have been at the school, how much involvement we have with the next door neighbour, etc."

"More indication of what would be the most suitable response to a scenario would be beneficial."

Through considering both colleague and student feedback, I created and implemented changes to the scenarios. I cut back from five scenarios to three, allowing a three-week cycle for each so that students could immerse themselves in the situation. Rather than filling in every detail of scenarios, I removed some information and introduced drama activities, where students took on roles of the characters in the scenario. In these roles they questioned each other as a way of gathering more information about the situation. Drama not only made the scenarios more interesting, but also gave specific roles and responsibilities within the scenarios to each group member, allowing for more cohesive group work. One student reported, *"Group work was less confrontational and having roles that could be assigned to group members alleviated a lot of the stress that can come with group work."*

With the help of student actors, I filmed short video clips to supplement the scenario narratives. These were used along with podcasts, student work samples, and other support materials to elaborate on the scenario. While these changes offered students less written information, they gave

them more of a chance to 'tune in' to the world of the narrative and come up with their own ideas about it.

Most students saw redeveloped content, with responsibility given to learners to further investigate, as positive:

"Scenarios were realistic and you could see them having been played out in real life."

[Scenarios have] "given me an idea of resources available and steps to be taken."

[Personal anecdotes] "supported my learning experience and brought a reality factor to the information."

"Information was comprehensive and informative."

"All information was extremely useful and issues discussed relevant to current teaching practices."

"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."

During content rewrite, some of the characters in scenarios were changed to include men and women in non-traditional roles, from a variety of socio-economic positions and cultural groups. This had been suggested by colleagues, and seemed to add depth and interest to the scenarios.

Lecturer Input

While I began by sharing in all discussion and providing considerable information to support the scenarios, my input changed based on this action research. Peers suggested to, "*Give feedback as needed."* In my reflections, I wrote: "*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."*

Lecturer input became limited to giving procedural instructions about how the scenario should be followed and providing intervention when learners were off topic, or to avoid an easy and early consensus. While this worked to some extent, a number of students nonetheless found group work difficult. This has meant monitoring group work more closely and supporting individuals within each group to maximize their participation.

For the most part, however, students' comments on lecturer input described it as supportive:

"She was always quick to reply to questions and is always available on the discussion board to keep us on track."

"She is supportive, understanding and knows what she is teaching."

Assessment of Learning

Assessment of learning has varied over the years, from group assessment to group input, but individual assessment. However, group work is now again assessed, due to reflection on peer feedback that group work should be acknowledged through assessment. But while group work is important in teacher education as a preparation for working collaboratively in schools, a number of students still saw it as a less favourable aspect of SBL, needing further development:

"Group work was challenging, but the way it was delivered made it manageable and somewhat enjoyable."

"Group work was difficult. Students wouldn't start discussing until the final week."

"I liked everything except group work."

"It is very easy to hide in cyberspace. This places pressure on the rest of the group."

In choosing to assess group work, I had to recognise student feedback and also found that in some groups, one or two members simply did not contribute; forcing other group members to do the extra workload. To address this, I assess non-contributing students individually rather than allowing the whole group to be affected. Further, I ask students to rate themselves and their group members for contribution to the task and use these ratings when I assess subject participation.

Assessment tasks have also evolved. Feedback from colleagues included that assessment could be made more authentic by requiring real world tasks that would need to be performed by teachers in classrooms. This is supported by Errington (2011), who says "students need to engage in those kind of routine assessment practices found in the professional setting" (p. 6).

Initially, students were required to write reports about how they would resolve the scenarios; now I have moved to more of a variety of assessment pieces, attempting to link more closely to the teaching profession. For example, students write a report for a principal about a suspected child abuse case; an informative article for parents about how to support their children's learning; a presentation for staff about brain research; and an acceptance speech for an inclusive practice award for partnerships with families. Redeveloped assessment has received positive feedback from students, such as, "*The assignments set are relevant to teaching and current issues."*

With explicit embedding of graduate attributes (a requirement of university subjects) and the redevelopment based on peer and learner feedback and critical reflection, SBL was considered an enjoyable and deep learning experience:

[*SBL] "was an engaging, challenging method of investigating the subject matter that develops life-long learning skills and attitudes."*

[SBL] "was worthwhile to introduce those who have never taught in a school to scenarios which are fairly certain to occur in their careers."

[I learned] "how to work through decisions ethically so that all impacts have been considered before making a decision."

Conclusion

Through the action research cycles, including peer and student feedback and critical reflection, SBL has transformed my teaching practices and evolved into the way it is presented today. This includes changes to content, lecturer input and assessment. With these changes, students seem to be gaining a better understanding of the issues explored in the scenarios and how they might react if they encounter a similar situation. One noted, *"I gained a deep understanding of these topics from participation in the scenarios."*

SBL is a teaching approach that, through trialing and developing through Action Research cycles, I have come to enjoy and support. It has transformed both my teaching and my students' learning. As Mezirow (1997) notes, "When circumstance permit, transformative learners move toward a frame of reference that is more inclusive, discriminating, self-reflective, and integrative of experience" (p. 5). This is echoed in student comments about SBL, including:

"I liked the idea of the scenarios. It helped me connect what I was learning to real life situations and therefore, understand a lot clearer."

"I feel privileged to have participated in this form of education and a lot more knowledgeable and prepared if every faced with similar situations."

I look forward to further exploration of SBL through action research cycles informed by colleagues and students in my future teaching. I echo what one student said about SBL, *"I thought I knew quite a bit, but [the scenario] really opened my eyes to what could possibly be happening to children."*

References

Akins, M. and Crichton, S. (2003). *Scenario Based Learning - Geography in the Field Using GIS / GPS for Curriculum Integration.* National Educational Computing Conference. Washington, USA.

Clegg, S., Hudson, A. and Steel, J. (2010). The Emperor's New Clostes: Globalisation and e-learning in Higher Education. *British Journal of Sociology in Education.* 24:1, 39 – 53.

Errington, E.P. (2011). Mission Possible: Using near-world scenarios to prepare graduates for the profession. *Journal of Teaching and Learning in Higher Education.* 23:1, 84 – 91.

Errington, E. (ed). (2010). *Preparing Graduates for the Professions Using Scenario-Based Learning.* Mount Gravatt, Queensland: Post Pressed.

Errington, E. (2005). *Creating Learning Scenarios*. Palmerston North, New Zealand: Cool Books.

Errington, E. (ed). (2003). *Developing Scenario-based Learning.* Palmerston North, New Zealand: Dunmore Press.

Grummon, P.T. H. (2012). *Trends in Higher Education.* Vol 6 no 2, 51 – 59.

Hunter, B . (2009). The benefits of simulation-based eLearning. *Workstar.* Accessed www.impart.com.au/workstar/workstar/knowledgecentre/articlesandtakeaways.html

Kindley, R. W. (2002). *Scenario-Based E-Learning: A Step Beyond Traditional E-Learning*, http://www. Astd.org/LC/2002?0502_kindley.htm

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

MacNaughton, G. and 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.

Sorin, R. and 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.* http://www.aare.edu.au/02pap/sor02045.htm