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Mission Possible: Using Near-World Scenarios to Prepare Graduates for the Professions

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A recent UK survey found many graduates unprepared for employment while employers placed greater value on transferable, employability skills rather than on specific ones. Increased student entry into professional-oriented programs, and subsequent pressures on work placements, have educators looking to alternative ways of providing safe, reproducible, authentic work experience, (Eland et al. 2010).Scenario-based learning (SBL), founded on the valuing of contextual knowledge, may provide one strategy for getting students closer to the realities of their intended profession through guided reflection on learning experiences designed to supplement rather than replace work placements. This paper has three main aims: The first is to clarify scenario-based learning as a learning strategy. The second is to note why and how some university teachers use it to prepare students for the professions. The final aim is to illuminate some ways by which teachers might optimize the learning potential to foster and sustain professional development.

Four years ago the Institute of Directors (UK) found that most university graduates were unprepared for employment and also that transferable, employability skills were more valued than specific skills by prospective employers, (cited in Eland, Hill, Lawton, Morton and Popovic, 2010). Given the recent downturns in the global economy, it is unlikely this picture has changed. Widening participation in higher education and increased entry into professional-oriented programs have placed heavy pressures on available work placements for professional courses. The mission for many educators is to find alternative experiences to prepare graduates in "a safe, reproducible, and authentic way" (Eland et al. 2010, para 5).

Scenario-based learning (SBL), founded on situated learning theory and the valuing of contextual knowledge, may provide one useful means for getting students closer to the realities of their intended profession through the construction and deconstruction of authentic learning experiences. This is not to suggest that scenario approaches substitute work placements, but rather they supplement and enrich them. Indeed, experiences met in real settings invariably inform the simulated scenario content, dilemmas and tasks. Scenario-based learning processes usually incorporate the simulation of true-to-life tasks with realistic challenges similar to those found in the workplace. SBL is one of a number of simulated learning designs.

Within a scenario-based learning framework, students, as potential professionals, are presented with a scenario descriptor, or set of realistic circumstances. This is accompanied by one or more focus questions and/or dilemmas designed to pursue particular lines of inquiry and fulfil specific learning intentions along possible pathways. 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. Through the crafting of the scenario and the teacher's discerning choice of focus questions, students may demonstrate a skill/ procedure, pursue a problem, explore an issue, and/or speculate on knowledge (Errington, 2010).

Learning is ideally scaffolded through guided observation, dialogue, teamwork, leadership opportunities, problem solving/ setting, issues exploration, deliberation, and reflection. A scenario-based learning process invites students, as would-be professionals, *into* the circumstances that determine problems, issues, and speculations. Students are encouraged to take ownership of their 'lived' experience (Miller and Nambiar-Greenwood, 2010).

The likely success of the teacher's mission to prepare graduates using scenario-based learning depends upon a range of factors, in particular: the teacher's knowledge of the profession and students; an ability to clearly articulate achievable goals; a theoretical and practical understanding of scenario-based learning, including the judicious choice of scenario options to achieve goals; appropriate scenario delivery; sufficient resources; and knowledge of how practice may be evaluated, optimized, and sustained.

Given the above, this paper has three main aims: The first is to clarify the nature of scenario-based learning, encompassing a knowledge of SBL *per se*, and its relationship to the professions. The second is to note how and why some university teachers prepare students for the professions using SBL, including the pursuit of specific learning goals/intentions in line with particular scenario options. The final aim is to outline some ways by which teachers might optimize the learning potential of scenarios to foster and sustain professional development.

The Nature of Scenario-Based Learning

The word "scenario" derives its meaning from the Italian Commedia dell'arte as something pinned to the

back of the play scenery/backdrop to indicate to the actors the entrances, exits, actions, and the overall plot of the play. In modern parlance, the term scenario has gained broader currency – being applied to almost any instance of human activity or situation. Within higher education, the term "scenario-based learning" refers to any pedagogical approach that involves an intentional use of scenarios to bring about desired learning intentions (Errington, 2005, p.12).

Lamos and Parrish (1999) add that "scenario-based learning" is based on context or situations and social frameworks" (p.1), and according to Carroll (1999), "scenarios (may) exemplify particular themes and concerns in work and activity", (p.7). Collectively a scenario-based approach to learning is carried out in social (read "professional") contexts, and scenarios have properties that may be exploited to achieve appropriate outcomes for aspiring graduates.

In terms of how helpful scenarios can be in deconstructing professionally-oriented learning experiences, Stewart (2003) refers to scenarios as "essential slices of reality" (p.83). These 'slices' can be examined as they are, or in some modified form. Scenarios can be located anywhere in time (past, present, future) and in any simulated work space, e.g., classroom, laboratory, hospital ward, courtroom, air traffic control tower. The fact that scenarios may be examined in minute detail, from a range of perspectives, indicates their potential in having students experience professional settings as problematic spaces.

Van der Heijden (2002) adds that a "scenario approach aims to help students become more skilful in dealing with uncertainty" (p.123). Some students find dealing with uncertainty is an uncomfortable experience, particularly when put on the spot and required to arrive at "correct" answers quickly (Miller et al, 2003). However, this very uncertainty can also render scenario-based learning some of its motivational appeal. Life *per se* has no clear boundaries; it is often "messy," ill-defined with uncertain outcomes.

According to Naidu (2008) the task of students faced with any scenario dilemma is to "deal with the repercussions of the precipitating and related events efficiently" (p.5). This proactive aspect of the work is essential to any profession's success in dealing with its clients in an effective manner. Here scenarios mimic the pressures of the workplace: Kindley (2002) asserts that "reality is *the* ultimate learning situation" (p.1). However, as reality can only be "guesstimated" using SBL, the term "*near*"-world, rather than real-world scenarios is used here. Here is a scenario example chosen because of its nearness to the real world. It was presented to a group of students aspiring to be health professionals:

> A male patient has been admitted to Ward 9 during the night. He speaks little if any English, refuses to be physically examined, and seems to be complaining about his throat. His tongue is covered in black fur and he has vomited twice. What are the underlying problems here? Why?

The scenario is designed to engage aspiring health professionals in a problem-based learning format where there is no clear singular problem inviting one simple solution. Establishing the nature of the problem(s) or issue itself is a first priority: Is this scenario a predominantly cultural issue? A simple matter of diagnosing the symptoms? These questions and others will drive the pursuit of the problem, and ultimately students will arrive at one or many solutions.

Within the scenario learning process, students will generate tentative hypotheses about the problem(s) along with ways to help the patient through exercising their emerging role. The process involves identifying what they know already about the problem/patient, determining what they need to know to move forward, and finding the ways by which they will pursue and integrate subsequent this missing knowledge. Students often work in teams and present their findings to the class who constitute a collegial audience. Participants and audience then evaluate and reflect on the process from a range of personal/professional perspectives.

There is a clear overlap between problem-based learning *per se* and problem-based scenarios. Scenarios can add to the realism of potentially abstract problems. The patient's problem(s) in Ward 9 might appear abstract if delivered to students as a simple set of observable facts. This detachment might well continue up to the point where, in their role as intending health professionals, they have to deal with the patient's realistic circumstances either individually or as part of a healthcare team. The patient may be "real," played by an actor or presented virtually (Henderson, 2010).

The term "You Are... the doctor, nurse etc." demands commitment particularly when the scenario circumstances appear real and certain tasks have to be identified/carried out if the simulated patient is to survive. The more real the patient appears to be, the more committed students will be in their response to this patient's needs (Henderson, 2010).

Not all scenarios are problem-based. Some simply require students to demonstrate what they know already by way of reproducing set procedures and facts, (skills-based scenarios). Students may explore concerns underpinning the discipline/profession (issues-based scenarios) and/or deliberate on past/future events supported by evidence (speculative-based scenarios). One or more scenario options may be combined to map and deliver a rich set of simulated professional experiences for future graduates. (See Errington 2010 for further discussion of scenario options.).

Scenarios may be delivered synchronously via brief or lengthy descriptors supported by quasi-professional documentation, e.g., fictitious medical records, law briefs, school reports, case notes. Wikis, sequential Powerpoint slides, audio files, clips on You Tube, (Eland et al. 2010), interactive web pages (Sorin, 2010), and email scenario descriptors may be explored face-to-face and/or asynchronously online. Digitized video incorporating subject and context (Eland et al. 2010; Fleischmann and Daniel, 2010), "real" interviews, online role-play (Davenport and Baron, 2010), and interactive case studies (Nickson, 2010) may also contribute greatly to the realism of the context, problem, issue, or speculation under scrutiny.

Eland et al. (2010) further point out that when scenario materials are embedded into the curriculum, they may provide enormous value and support in the development of graduate attributes, enabling students to explore professionally-oriented issues not readily accessible in conventional lectures and tutorials. (See http://www.bcu.ac.uk/futureproof for examples of these resources).

Why Some Educators Use Near-World Scenarios

Many of the reasons why educators use scenario-based learning to prepare their graduates have been alluded to already. However, here are some more reasons why university teachers use SBL to prepare their graduates for the professions; they form the basis for the creation and articulation of learning goals.

To Deliver Substantive Subject Content

Scenarios are commonly used to deliver substantive subject content. Clearly scenarios will not be employed if discipline content is not facilitated. However, in practice, scenarios are best used for having students explore, rather than simply replicate, the repositories of knowledge belonging to the discipline. "Content" will incorporate key themes, specific issues, competencies, and professional concepts idiosyncratic to the profession. Scenario learning can fail if and when the amount of subject matter, albeit "useful," overwhelms the scenario, and subsequently the student, with too much detail.

To Help Students Develop Their Professional Identity

The dual concept of student as both learner and would-be professional is an important one: connecting both are notions of "personal and professional identity." The literature reveals that scenarios are used variously in contributing to the formation of professional identities: business managers, teachers, nurses, doctors, fire-fighters, surgeons, veterinary practitioners, lawyers, and many others.

Van der Heijden (2002) states that "the significance of scenario thinking lies in its ability to overcome thinking limitations by developing multiple futures" (p.2). 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/ multi- perspective. Students enter a scenario, assume appropriate roles and perspectives, and take up similar challenges to those present in the professional workplace. Participation in this process necessarily constitutes identity construction, not only in terms of who these aspiring students are in developing as a lawyer or nurse, but also in respect of what kind of lawyer or nurse they are aspiring to be. Scenarios further allow a questioning of "identity" (roles, responsibilities, assumptions), where students are afforded opportunities to challenge conventional wisdom, historic ways of thinking and operating, and long held assumptions about important issues (Fahey and Randall, 1998, p.5).

Scenarios can facilitate other significant aspects of identity formation: in particular, a proactive deployment in learning and knowledge construction, involving a growing ability for students to interact with all kinds of situations and people within the quasi-professional setting. Scenarios provide opportunities for the formation and integration of personal with professional identity as exemplified in nursing (Miller et al, 2003) and social policy (Murray 2003;2009), among other examples.

To Achieve Graduate Attributes for Students and Employers

The scenario-based learning process can potentially incorporate many of the graduate attributes made explicit in the mission statements of institutions across Australia and elsewhere, namely: communication skills, gain of a global perspective, competence in information literacy, lifelong learning, problem-solving, social responsibility, and teamwork. Specific scenarios may be designed to embed particular graduate attributes. For example, law students experience communications skills/set procedures required in courtroom settings (Holm, 2010); work as a team to deal with a case that is not clear cut (teamwork); explore/debate court rulings regarding euthanasia (aspects of social/individual responsibility); and/or deliberate on possible changes in international law (global perspectives).

To Introduce Students to the Culture of the Workplace

Some teachers use scenarios to introduce students to the professions with attendant values, membership, etiquette, language, expectations, and notions of collective identity. Here beliefs, possibly different from one's own, may be encountered/ transacted within

scenarios, along with 'appropriate' (ethical) attitudes and behavior. Lave and Wenger (1991) note that "being able to speak the vocabulary and tell the stories of a culture of practice is fundamental to learning" (quoted in Herrington and Oliver, 1995, p.6). Scenarios can provide exploratory snapshots of the culture, partial "stories" of the culture's past, present, and possible future. Members of the culture constitute "communities of practice" (Orey and Nelson, 1994) in which students acquaint themselves with the cultural norms and practices of the profession in order to survive and prosper. As Naidu (2010) points out, scenarios may provide the basis on which the knowledge and procedures of the professional culture are acquired (Naidu, 2010).

To Promote Situated, 'Authentic' Work-Based Learning

Naidu (2010) adds that scenario-based learning is a practical expression of situated learning which is based on the fundamental assumption that knowledge cannot be known and fully understood independent of its context. The emergent, scenario-based learning, "occurs as a component of authentic activities that are common to the community of practice in which the learner is involved" (Orey and Nelson, 1994, p.5). Students are encouraged to behave, make decisions, communicate, and draw conclusions in ways close to those found in the workplace. This process represents a shift in emphasis from the simple transmission of disciplinary knowledge to a focus on the experience of learners within authentic learning contexts (Brown, Collins and Duguid, 1989; Naidu 2010).

Brown, Collins and Duguid (1989) and Lave and Wenger (1991) point out that contextual learning is necessarily acquired within an authentic context in pursuit of authentic tasks. Such tasks can be motivating if students value exploring scenarios that approximate professional, near-world contexts (Woo, Herrington, Agostinho and Reeves, 2007). Authentic learning is more likely to occur when it replicates the kinds of social organizations/groupings present within the setting: For example, students as would-be managers collaborate on a project where team spirit is highly valued and sought after by employers. The direct relation to the real world necessitates that scenarios must not only be authentic in replicating aspects of the professional setting, but also robust and relevant (Brock 2003).

Brown, Collins and Duguid (1989) add that learner assessment becomes authentic also when it takes the form of ordinary practice in the culture so that students engage in those kinds of routine assessment practices found in the professional setting. For example, law students may be assessed on their ability to write a coherent brief, medical students to write a report, or disaster education students to prepare a risk management action plan to deal with a specific crisis.

Authentic forms of assessment need conceptualizing to encourage and sustain students' critical thinking. Some university teachers happily promote authentic learning practice but falter when insisting on using standard "university assessment," e.g., examinations, essays, written assignments, instead of using authentic, contextualized assessment.

Degrees of authenticity and relevance perceived within the scenario may well depend on students' perceptions of the teacher's "professional" currency and his or her familiarity with the professional culture. In response to this concern for "currency," many higher education institutions engage in partnerships, seeking professional input on university courses from members of professional bodies/registration groups whose members currently practice within the local and/or national community.

To Have Students Practice Professional Teamwork

Lave and Wenger (1991) state that if learning is to be successful it needs more than social interaction; it necessitates meaningful collaboration, the kind of vital team-based work required in most professions. Lamos and Parrish (1999) affirm that successful scenario-based learning operates within positive social frameworks so that meaningful (task/goal-driven) collaborations become possible. For teams to work successfully, it is important that teachers and students maintain an atmosphere conducive to learning: one in which students do not feel threatened or exposed and feel able to proffer alternative opinions and solutions (Errington 2005).

To Deliver "Realism" as per the Professional Workplace

Some educators employ scenarios to generate realism by replicating professional contexts as closely as possible. By pursuing problems in a realistic way, based on "genuine" issues (ones where outcomes have not been predetermined) and/or by speculating on human events, scenarios can bring a breath of life into the curriculum. Students have to think on their feet; there is no set script, and dialogue can be unpredictable. Students may take one or more stands on an issue, be required to formulate an opinion, and through participation, recognize vested interests surrounding issues particularly their own.

To Provide Cognitive Motivation

Miller (1980) and Parkin (1998) assert that scenarios contain similar ingredients to good stories in that they incorporate characters (roles/ perspectives), an element of conflict (e.g. a problem to be solved), and a resolution (achievement of learning outcomes). However, unlike stories, scenarios are usually presented

"incomplete." These stories only become 'whole' when students engage with them. Their incompleteness can be cognitively motivating or threatening (Miller, Smailes, Stark, Street and Watson. 2003, p.107) as students grapple with ill-defined problems and "*find* as well as *solve* problems" (Herrington and Oliver, 1995, p.4).

To Facilitate Multiple Perspectives on One or More Issues

Teachers also employ scenarios to have students explore multiple perspectives on one or more issues. Role perspectives can reveal vested interests and render deep level learning through a need to understand and empathize with a range of human agencies. Students often have to defend and justify their positioning on issues, ideally integrating personal and professional role-taking perspectives. Feelings as well as thoughts may be called into play here (Pernice, 2003).

How Scenario Success Might Be Optimized

Having identified some significant characteristics of near-world scenarios and noted why some educators use them to prepare their graduates, the final task is to outline ways by which their use might be optimized if desired results are to be achieved.

Learning through scenario engagement might be maximized by teachers: (i) positioning themselves in specific ways to achieve particular learning intentions; (ii) adopting a Brechtian approach to teaching and learning; (iii) exploiting the dramatic qualities of scenarios; (iv) creating appropriate distance between students and scenario; and (v) by crafting the scenario descriptor to meet specific graduate needs.

By Teachers Positioning Themselves in Specific Ways

There is little in the SBL literature about the positions teachers might adopt within a scenario learning process and how their respective stance might optimize or minimize student learning. What kinds of positions might teachers adopt to optimize learning? Here are three possible positions:

First as *participant only* - the teacher adopts a role within the scenario in order to observe and guide the action from within whether using discussion, debate or role-play to scaffold the learning. For example, by assuming the role of project manager with management students, the teacher chairs a meeting where he or she encourages students to contribute to the decision-making process of the company in order to ensure its survival. Within this teacher-in-role stance, the teacher may act as devil's advocate or challenger to some of the assumptions/ decisions made by students.

Second, as an *observer-mentor* - the teacher monitors student interaction/investigation from the "outside," and he or she notes progress and gives feedback to students as the exploration of the scenarios unfold. The role of the teacher is to observe, provide external feedback when needed, move the scenario onward in a timely fashion, and add new information if and when required.

A third position is that of *participant-observer* - the teacher assumes and then surrenders a role within the scenario when and where necessary. For example, the teacher hands over the chairing of the meeting to his/her business students, and then "departs." In reality, the teacher continues to observe the meeting from the sidelines and provides feedback later to the students regarding their part in the meeting, (Errington 2005).

Adopting a Brechtian Approach to Teaching and Learning

Some proponents of scenario-based learning approaches would have students "suspend their disbelief" in the quasi-reality of the scenario, through a process of "immersion" (Herrington and Oliver, 1995). Other authors favor a more Brechtian approach where the participatory student audience is encouraged by the teacher to detach themselves from scenario events by engaging in critical reflection at appropriate moments of the scenario process. By so doing, students as aspiring professionals are likely to "benefit from knowing how they are shaped by, and come to shape, the social construction of the drama (scenario) itself" (Errington 1992). Thus students' current understandings of the professional workplace, and their prospective place within it, are revealed and opened to scrutiny.

Brecht states that, "when something seems the most obvious thing in the world, it means that any attempt to understand the world has been given up" (Willett, 1964, p.71, quoted in Errington, 1992, p.43). Critical reflection facilitates such deliberation. Students will gain from an increased knowledge of how the profession works (the practical) and why it works as it does (the socio-political).

Exploring the Dramatic Dramatic Qualities of Scenarios

For scenarios to appear "real," they must necessarily appeal to the "dramatic imagination" (Courtney, 1980). This is no contradiction, for without the imaginative element scenarios are likely to be stilted, simplistic, and appearing fixed in time and space. However, through the manipulation of scenario action, storyline, journey, plot, conflict,

climax, and resolution, the circumstances in which would-be professionals find themselves can appear more real and be explored in a similarly realistic manner. Without human actors, or sufficient "life," students are likely to become bored and/or treat the scenario as irrelevant compared to the real, dynamic world.

Scenarios contain two important dramatic qualities: time and space: In respect of time, teachers may focus students on the past, present or future. Alternatively, they can have students travel in time. They are used to envision how things came to be as they are (e.g. forensic science, scientific speculation present to past), how things are now (and why), and how those same things might evolve in future, e.g., market speculation, present to future. It is also possible to move from one time zone to another.

The notion of "space" may refer to a particular location. Locations can be changed in the wink of an eye – from the court brief in prison, to committee room, to the courtroom, and all within minutes. Similarly, hard to reach locations (geographically isolated) may also be simulated as in the re-creation of potential/actual disaster sites (Aitken, 2010).

Creating Appropriate Distance Between Students and the Scenario

The teacher's use of language can determine the psychological distance maintained between student and scenario. Students are positioned, near to, or far from, the scenario by the teacher's choice of words. Far positioning is achieved when teachers employ future or past-conditional tenses: "What would you do if so and so happens?" or "What might you have done if …?" Consideration of the scenario is likely to be at a hypothetical level, demanding little emotional/cognitive commitment on the part of students.

Near positioning is achieved when the teacher employs the present tense, as in the following example with pre-service teachers:

> You've been appointed to your first full time teaching job at Bailey State School. You are about to enter your new classroom for the first time... How are you feeling? What can you see? What are you doing? Why?

By using the present tense, the distance between pre-service teacher and classroom context is lessened, and possibly commitment will be heightened. In the above example, this is as close as students are likely to get to the shared situation without actually stepping foot in the classroom.

By Crafting the Scenario Descriptor and its Delivery

Scenarios descriptors are often expressed as a set of circumstances. These may be based on real life experiences, stem from an imagined situation, or both. The scenario descriptor may center on an individual's role within the profession, on a process, on a problem, and/or on an issue. Scenarios may flow across disciplinary boundaries and serve to highlight the complexity of a given situation.

Delivered well, scenarios can help students achieve a sense of "being there." It is reasonable to assume that the more quasi-professional events students experience and (hopefully) enjoy, the more flexible they are likely to be in adjusting to the real demands of their chosen profession.

The crafting process involves the selection of appropriate roles/characters able to deliver the learning points. Added to this, the construction of the scenario descriptor, its plot, its perceived authenticity (when benchmarked against the real world), opportunities for decision-making, and the selection of well chosen (not stereotypical) characters, are all essential ingredients for optimizing scenario learning success. These and other important elements mentioned earlier combine to encourage students as aspiring professionals to "be there" in the scenario. Once there, the important work of developing students as professionals may begin.

Conclusion

This paper promotes the idea that near-world scenarios, delivered and explored with appropriate support, can provide an excellent vehicle for assisting students, as intending professionals, to acquire the kinds of contextual knowledge that employers welcome in the professional workplace. One big advantage of SBL as a viable educational strategy for preparing graduates is its resemblance to professional practice (Naidu 2010), and its subsequent potential in providing rich practical experience beyond the conventional lecture or tutorial.

The paper concludes that the mission to harness SBL in the service of graduate preparation is possible provided that the scenario-based learning has a clearly delineated pedagogical context and an informed teacher intent on preparing graduates for the professions. The learning process is likely to be optimized for students when the role of the teacher is made explicit; when students are encouraged to see the scenario from the "outside" and, by so doing, come to understand better their role in the social construction of professional identity.

Scenarios possess certain inherent qualities that can be harnessed to motivate students in specific ways. For example, the teacher as an implicit director in the scenario learning process, holds the power to adjust the

distance between learner and scenario via an appropriate choice of scenario descriptors and the language used in their delivery.

Overall, this paper has advanced a number of conceptual, cultural, personal, and sociological factors that make scenario-based learning a useful addition to the toolkit used to prepare students as professionals.

Finally, Van der Heijden (2002) reminds us that "People are natural scenario planners; it is how we make sense of the world and how we decide upon which source of action to take in everyday life" (p.117).

Although scenario planning is hardly new, how teachers plan, deliver, and evaluate its use impacts enormously on their ability to achieve the key mission of preparing graduates for the professions.

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