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The Potential of Role-play in Undergraduate Psychology Training

Marie Caltabiano
Psychology, James Cook University
marie.caltabiano@jcu.edu.au

Ed Errington
Former Academic Development Advisor, James Cook University
e.p.errington@bigpond.com

Lynette Ireland
Student Learning, University of Tasmania
lynette.ireland@utas.edu.au

Reesa Sorin
Dept. Education, James Cook University
reesa.sorin@jcu.edu.au

Amanda Nickson
College of Arts, Society and Education, James Cook University
amanda.nickson@jcu.edu.au

ABSTRACT

This paper reports on the use of role-play as a scenario-based learning approach in the teaching of counselling skills, client assessment and diagnostic interviewing within psychological training. While role-play is not a new technique in teaching such skills, its use is generally reserved for the training of higher level students. This paper explores the use of role-play for undergraduate training, its usefulness and how ambiguity and uncertainty can be incorporated into scripts for more effective training. Through a process of constructivist learning, students arrive at meaning between each other in how they approach even improvised role scripts.

INTRODUCTION

What is Scenario-based Learning?

Scenario-based learning (SBL) is an educational approach which uses scenarios to achieve discipline-specific learning intentions (Errington, 2005). These scenarios can be in the form of a case description, a critical incident or a real-life experience. According to Errington, there are four types of scenarios, namely, 1) skills-based, 2) problem-based, 3) issues-based or 4) speculative-based scenarios. The basic premise of SBL is that learning occurs through a process of engaging students in 'problem-solving, decision-making, critical analysis, evaluation and reflexivity' (Errington, 2005, p 12). Problem-based scenarios and skills-based scenarios were used to prepare students for the profession of psychology.

SBL is an active form of learning. Active leaning is student-centred as opposed to content-centred instruction (Halonen, Brown-Anderson and McKeachie, 2002), is controlled by the students (Mayer, 2004) and facilitates self-discovery of knowledge (Butler, Phillmann and Smart, 2001). The use of scenarios can promote problem-based learning, an approach to learning which actively engages students in applying existing knowledge to solve problems encountered in practice (Boud and Feletti, 1998). As such problem-based leaning is closely aligned with a theory of teaching which Ramsden (2003) describes as 'teaching as making learning possible', an approach fundamentally different to the transmission of knowledge epitomized by the traditional didactic teaching; or teaching which has as its focus planned student activity. According to Ramsden (2003):

> *In this conception, teaching, students and the subject content to be learned are linked together by an over-arching framework or system. Teaching is comprehended as a process of working cooperatively with learners to help them change their understanding. It is making student learning possible. Teaching involves finding out about students' misunderstandings, intervening to change them and creating a context of learning that encourages students to engage with the subject matter' (p. 110)*

SBL uses a deep approach to learning rather than a surface approach which encourages rote learning of factual information. Deep approaches to learning facilitate students' understanding of content through the application of knowledge to real problems (Yoder and Hochevar, 2005). An added advantage of deep approaches to learning is that more meaningful processing of information leads to better memory for that information (Dietz-Uhler and Lanter, 2009). According to the levels of processing theory of Craik and Lockhart (1972), information that is processed using a more deep analysis of meaning is remembered better than information that is processed in a superficial structural way. Active learning has been found to be associated with better learning achievement (Huxham, 2005).

The reason SBL is an effective teaching technique is because it can replicate in a realistic manner professional workplace role within the safety of the classroom setting (Errington, 2005). In the current application of SBL, these roles were as therapist or counselor engaged in dialogue with a pseudo client to elicit information essential to diagnose the client; as diagnostician applying the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria; as test administrator, and as therapist making decisions about treatment. As such, scenarios are a practical way of integrating and applying knowledge acquired through lectures or reading.

Problem-based scenarios work best when they are moderately challenging: if the solution to the problem is readily apparent or if the task is too difficult, students will not be motivated to engage with the task. Errington (2005) has suggested that SBL should be socially motivating by involving students in team learning to explore issues, practice skills, speculate on knowledge and make decisions. Furthermore, problem-based scenarios can facilitate opportunities for reflective learning, providing insight into acquired competence, and on skills which need to be developed further.

Role-play as a Learning Approach

Role-play within the framework of SBL is learning through enactment. The simulated scenario provides the context for the role-play (Errington, 1997). This can bring the 'real world' or the professional work context into the classroom. In training for clinical practice students benefit from being able to enact the role of therapist and receive feedback on their

performance. If the role-play can be video-taped, feedback can be provided on individual responses, and types of responses (verbatim feedback, playback, interpretation) can be modelled for students. Role-play is informed by the conceptual framework known as situated cognition. Situated learning is according to Lave and Wenger (1991) "the relational character of knowledge and learning, about the negotiated character of meaning, and about the concerned (engaged, dilemma-driven) nature of learning activity for the people involved" (p. 33).

According to Errington (1997), there are three components essential to role-play: role taking, role making and role-negotiation. In order for students to 'get into role' there must be some basic understanding of the social expectations of their role (e.g. how a therapist behaves). Part of role-play also involves creating new roles, switching between roles and modifying roles. The third aspect of role negotiation is very much dependent on how other members within the interaction view the role. Students involved in role-play can explore their shared understanding of learnt material: for example, how a depressed client might respond to a cognitive therapist's challenging of their negative self-view. Errington (1997) argues, 'In role-play, participants negotiate between social expectations of a given role, their dynamic interpretation of the role, and the degree to which others accept their view of the role' (p. 3).

Role-play can be used to teach skills; to solve a problem through the dramatic elements of SBL; to explore issues, or for speculative reasons (Errington, 1997). As such it reflects all the four types of scenario mentioned by Errington (2005). The use of role-play should be situated within the context of the particular area of focus, and to be effective should be linked to learning objectives. This will differ depending on whether it is specific micro-counselling skills or use of interviewing technique to train students in the use of clinical diagnostics. Both of these are examples of the skills-based role-playing approach where students can acquire a skill through modelled behaviour. Another example might be training in correct administration of the Weschler Intelligence Scale for adults (WAIS-5) where standardized procedures must be adhered.

Issues-based role-play can be used effectively to explore for instance, the best therapeutic approach for clients with a particular disorder, weighing

the evidence-base in their argumentation. Through the medium of role-play students articulate and defend the differing approaches. However, problem-based role-play involves students being creative in their application of knowledge to new demanding circumstances (Errington, 1997). This might involve students simulating a group of psychologists flown in to a disaster area to help victims cope with trauma. Recent world events such as the Japan tsunami, the Christchurch earthquakes or Queensland floods in Australia can be used as the disaster setting. Such a planned learning activity encourages the attribute of student teamwork in decision-making, replicating authentic work roles. Instructors can build into the scenario elements of surprise events and changing circumstances to which the role-players have to adapt.

The last of the approaches to role-play mentioned by Errington (1997) is speculative-based role-play. The aim of this approach is to speculate on knowledge of past, present or future events in an interactive way to analyse events. This type of role-play is used to 'fill in the gaps' between what is known and not known about an event. For example, students can speculate about the treatment of the insane in the 16th century and then read historical accounts to verify their understanding; or students can role-play opposing viewpoints which led to the moral treatment of the insane.

For a thorough guide on how to plan for role-play, the interested reader is referred to Errington (1997) where detailed guidelines are provided on how to select scenarios, deciding on a role-play approach, role allocation, teacher expectations and ground rules. A cautionary note should be made at this point, that not all learning objectives are suited to role-play and that some students might find role-playing too confronting if they have a fear of public performance. It is important to stress to students that they are 'in role' and that the dialogue or actions do not represent their own personality. In preparing for role-play it is advisable that instructors identify any aspects of the scenario or role-play which may unduly cause students distress, and offer those students support and appropriate opportunities for counselling. Instructors should always explain the purpose of the role-play and how the approach addresses educational goals of the content area. All role-play should be followed by a debriefing or discussion of shared and personal meanings both 'in role' and 'out of role'. How role-play is used to obtain personal data in client interviewing differs from the responses provided by a therapist to elicit the thought processes of a depressed client, or how

to ask questions to 'rule in' or 'rule out' a specific anxiety diagnosis. The possibilities for use of role-play are endless. Given that much of clinical practice involves interaction with clients, role-play as SBL is ideally suited to training.

This paper will report on the exploration of role-play used by the first author within undergraduate psychological training as part of a multidisciplinary team project 'Embedding graduate attributes into four discipline areas using scenario-based learning'. Members of the team and the represented disciplines in addition to Psychology were *Name Removed* (Teaching and Learning Development, team leader and SBL specialist); *Name Removed* (Education); *Name Removed* (Social Work and Community Welfare); *Name Removed* (Australian Indigenous Studies). The objective of the SBL project was to develop SBL teaching resource materials, hosted on a dedicated SBL website alongside video blogs, expert commentary and links to published material on SBL. The SBL team also provided peer review of SBL content used in teaching by other members of the team.

Exploration of Role-Play in a Course

To aid diagnosis

Role-play was used by the first author in the subject *PY3103:03 Psychopathology*. One usage was as a group diagnostic approach taken from Tomcho, Wolfe and Foels (2006) for diagnosis of anxiety disorders where two students role-played a script for therapist and client presenting with symptoms indicative of an anxiety disorder. The symptoms were purposively ambiguous or symptomatic of a number of anxiety conditions such that students were required to either rule in or rule out a diagnosis on the basis of questions to be asked of the client to further clarify the nature of symptoms, chronicity and degree of impairment. Half of the tutorial class acted as therapists supporting the student therapist in the role-play. The other half of the class acted as a support for the client. The nature of support involved relaying important information regarding specific diagnostic criteria or chronicity of symptoms for which the therapist should ask a question. For example when the client mentioned an incident of being held up with a knife while walking home late at night a year ago, to rule in post-traumatic stress disorder the therapist needed to enquire about whether the client had experienced any nightmares about the event, how soon after

the event this had occurred and whether he was still having nightmares. Other questions could be asked in respect to startle reactions when being approached by persons in the street, or recurring thoughts of the event. The student helpers for the client in the role-play similarly relayed information to this person in order to either confirm a diagnosis or to provide distracter information. This SBL activity was designed to not only teach Psychology specific knowledge in regard to use of the DSM-5 but also to develop graduate attributes considered essential to university training. Such attributes included team work, problem solving and decision-making.

Teaching counselling skills as part of the clinical interview

Role-play can be an effective SBL technique to teach skills required of a therapist in the clinical interview. Such skills include how to initiate the interview, how to ask basic background questions of the client, how to explore issues, and how to ensure that the conversation keeps going through the use of more open-ended rather than close-ended questions. As such role-play offers a vehicle ideally suited to teach micro-counselling skills to students. This activity can be performed in a range of ways: as a dyadic therapist and client with the class providing commentary on performance, as multiple dyadic couplings with alternating therapist and client roles so that all students have the opportunity to practice learnt skills, or in groups of three students with one of the students evaluating the persons in their specific roles and also asking questions in respect to what was said by each person in response to the other. An even more effective approach to training using role-play would involve (cost permitting and if video resources are available) the filming of students in role-play with feedback provided by the instructor on correct technique. Students through use of recording equipment are then able to view themselves in the role-play to see how they approached the task. At this stage the instructor can stop and start the recording at different places to enquire about the questions asked by the therapist in role-play. This reflection on the role-play demonstrates the potential usefulness of SBL in the training of psychologists and mirrors the reflective practice of psychologists in real therapeutic settings. Questions which might be asked of the student include 'Why did you respond with… when the client said….?'; 'Could you have asked the question differently?'; 'If you were to do the role-play again what would you do differently?'. The instructor can also enquire as to the direction of questioning taken in the role-play, feelings of unease, and difficulty maintaining the conversation.

Apart from being able to reflect on performance, the role-play offers an added advantage in that students are able to engage in a meaningful training activity in the supportive environment of the classroom and do 'no harm' to the client – one of the fundamental ethical principles of psychological practice. At advanced levels of training in Australia students can perfect their interviewing skills while on psychological placement under the supervision of a trained psychologist. However, undergraduate students can learn many of the requisite interviewing skills through role-play.

So far the use of role-play in training students in the conduct of the unstructured clinical interview has been discussed. Role-play can also be effectively used to teach students how to use the structured clinical interview for the DSM-5. This instrument outlines the questions which the clinician should ask to rule in or rule out a diagnosis, for example obsessive-compulsive disorder or a specific personality disorder. Use of the SCID-5 however can appear contrived or stilted unless it is done with the appropriate voice intonation, eye contact and interest in the client. Such skills can be perfected through role-play so that the therapist does not appear to be simply reading questions and writing down the client's response. Student familiarity with the DSM-5 criteria for a disorder in addition to the format of questions in the SCID-5 in relation to these criteria can serve to make the structured interview less contrived. Practice with this type of interview through role-play can perfect these skills.

Enactment of a disorder through role-play

Role-play can also be used as a teaching strategy to better acquaint students with aspects of different psychological disorders. Traditional approaches to teaching about psychological disorders have used supplementary material in addition to textbook knowledge as part of the instruction. Such supplementary material includes the Case Study, characters in both biographical and fictional film, and more recently the internet video blog. Students are able to read or view how someone with a disorder (e.g. schizophrenia, bipolar depression) thinks, behaves and expresses emotion. YouTube videos, case studies and movies have been used to advantage by the first author to educate about a psychological disorder. There are many movies (*A Beautiful Mind* – schizophrenia; *Mr Jones* – bipolar depression; *Rainman; Mercury Rising* – autism) which depict characters with a disorder. The advantage of using these materials in teaching, apart from their potential

to motivate and interest the learner is that they provide a bridging mechanism between reading about disordered patients and the reality of working with them. Undergraduate students in Australia do not have the opportunity to interact with clinical patients as part of their training. Only students at higher levels of training in Australian psychology degree programs are able to go on clinical placement. As such the learning experience at undergraduate level lacks a sense of realism which role-play has the potential to provide.

Role-play has been used successfully by the first author as an SBL strategy to teach about the thoughts, feelings and behaviour or someone with a specific disorder. For example, to understand what it would be like to have generalized anxiety disorder, borderline personality disorder or major depression, students can apply what they have learnt about the disorder through enactment of the disorder in role-play; i.e. students role-play a client with the disorder. This is a useful exercise to see what information students draw on to make the simulation effective. Instructors can then have a discussion on the shared understandings of the students in role-play, and of other students in the class in respect to the manifestation of the disorder. This exercise is more likely to be remembered by students because of the personal involvement than simply learning about a disorder in a lecture or reading about the disorder.

Training in client assessment using role-play

Another potential use of role-play is in the training in the administration of psychological assessment instruments. Again undergraduate students are not sufficiently competent to administer personality assessment instruments like the Minnesota Multiphasic Personality Instrument (MMPI-2), the NEO-3 Personality Inventory; vocational tests such as the California Occupational Survey (COS), the Kuder Occupational Interest Survey (KOIS), the Strong-Campbell Interest Inventory (SCII) or the Campbell Interest and Skill Survey (CISS); or intelligence tests such as the Wechsler Intelligence Scale for adults (WAIS-IV) or Stanford Binet Test (SB-5). Psychological assessment subjects at the undergraduate level teach about the different instruments available, the purpose of the instrument and the psychometric properties of these instruments. This is the most basic form of instruction through textbook readings and lectures. Students can become better acquainted with these assessment instruments through hands-on looking at the items within the test battery and examining the accompanying test manual; and also, through course assessment such as reviewing the psychological test.

Role-play affords an added advantage in students being able to either act as the test administrator or assume the role of the test taker. This does not have to involve administering the entire test. Parts of the test can be used. For example, within the WAIS-5, students can administer and take the Vocabulary Test and get practice in scoring this subtest. Such a role-play activity makes the material 'come alive' for students. Role-play adds a sense of realism making the activity meaningful and interesting. Role-playing the administration of a psychological test can be used to instruct students in how to initiate the session, how to ensure that standardized administration procedures are adhered to and how to 'not provide feedback' to the pseudo-client during administration. Within the safety of the classroom this simulation of psychological testing has 'no potential' to cause client harm, while providing students with feedback, valuable skills, professional standards and professional attitudes of immense value for future psychological practice.

The team peer review process

As a requirement of the SBL team project, individual members through a negotiated process of peer review arranged for the content of their scenarios and the learning objectives to be reviewed by other members of the team. In regard to the role-play activities used by the first author, feedback occurred on the nature of the activity; student interest and involvement and on whether the reviewer thought that the stated learning objectives had been met. The learning objectives for most of the role-play activities involved the acquisition of the discipline specific knowledge, but in addition the development of graduate attributes such as ability to work in teams, ethical understanding and conduct, group learning and reflection on this learning. There were two significant aspects of the peer review feedback which the first author was able to incorporate in the future modification of the role-plays. One of these was the need to add 'noise' factors into the scenarios and role-plays. Another was questioning and reflection on individual responses of the students in the role-play.

Noise factors can be emotional outbursts by the pseudo client, socio-cultural or religious beliefs which accentuate differences between the therapist and client or the role-play being less scripted (clients going off on a tangent). Incorporation of such 'noise factors' was a useful suggestion by a peer reviewer from another discipline, because it offered a viewpoint

on how instruction could be enhanced which may not have occurred to a Psychology Instructor. Given that one of the teaching Strategic Intents of XXX University (name removed) is to develop graduates who are able to 'make a difference' to the lives of persons from a range of social-cultural backgrounds, the ability of students to be able to consider such diversity and how it may impact on their interactions with clients can only serve to better their psychological training. This also made the first author more aware of the westernised nature of psychological theory, practice and treatment and how these need to be better aligned with clients who represent the cultural diversity (indigenous, migrant groups) of the region. Therapeutic sessions with clients also do not run like a clearly articulated script where symptoms, behaviours, emotions and thought processes are easily identified as criteria associated with specific diagnostic categories. The inclusion of noise factors will prove useful in future instruction using role-play.

Student evaluations of role-play

Effective use of role-play for educational purposes involves reflection on, and evaluation of the role-play on the part of both instructors and students (Errington, 1997). Following the role-play, students should be given the opportunity to report on the learning experience, what they liked and did not like. Educators should reflect on what worked and what did not work. Student feedback can help instructors modify aspects of the learning activity to better meet learning objectives.

Students have been very encouraging of the SBL role-play teaching strategy. Not only are they more motivated to attend classes but their feedback reflects their interest in being involved in the teaching process. Role-play makes students active participants in the learning experience not simply passive recipients of knowledge. They are able to get into the role, explore issues, discuss their shared understandings and reflect on the process of learning and the psychological fidelity of the simulation. This is evidenced by some of the student feedback in the subjects which have adopted SBL and role-play in particular.

> *'The opportunity to work through scenarios in Psychopathology 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'.*

'Actually, working through scenarios with fellow students really highlighted the depth of our knowledge, the importance of a collegiate environment and brought to life the realizations that solutions are not always as simple as they first appear'.

'Working on scenarios within the safety of the university environment enabled me to fully explore and challenge concepts and ideas that may not have been possible in a real-world setting'.

'Scenario-based learning is a great way to integrate the learning styles of my classmates with my own to achieve positive outcomes for our clients'.

'Scenario-based learning is a refreshing and interactive way of working through the course material, and I believe it helped me remember a lot more of the content compared to the traditional lecture/tutorial approach'.

Role-play using problem-based and skills-based scenarios has been used by the first author in *PY3103:03 Psychopathology* for a number of years. The average grade in this subject over time has been a Distinction/ High Distinction. Undoubtedly, the subject content lends itself to the practice of psychology which enhances the appeal of the subject. Student Evaluation of Teaching consistently results in ratings of above 4 out of 5 for the question 'The interest generated by this subject was…'. Case studies have always been used in the delivery of lecture material, but role-play within SBL moves beyond simply presenting a case to actively involving students in the process of learning. The role-play approach to teaching clinical diagnostics, interviewing skills and client assessment was evaluated with the following questions –

How helpful was the role-play activity in understanding diagnostic differences for psychological disorders?

How helpful was the role play in learning interviewing skills?

The evaluation used two 7-point rating scales where 1 represented that the activities were not very helpful for understanding psychological

disorders/diagnostic differences or learning interviewing skills, and 7 indicated that the activities were very helpful. A midpoint of 4 represented that the activities were somewhat helpful. Mean ratings of 6.5 out of 7 were found for both questions respectively.

CONCLUSION

This paper has highlighted the potential uses of role-play as a scenario-based teaching strategy for psychology undergraduate training. Consideration was given to training in client assessment using role-play, learning about disorders through enactment in role-play, teaching counseling skills in clinical interviewing, and using role-play as an aid to diagnosis. Psychological instruction can benefit from the peer review process, highlighting different perspectives and different approaches to SBL strategies used by other disciplines. As a conclusion, student feedback and evaluation have supported the incorporation of role-play in the teaching of clinical psychology.

REFERENCES

Boud, D. and Feletti, G. (1998). (Eds). *The challenge of problem-based learning*. (2nded.). London: Kogan Page.

Butler, A., Phillmann, K. B., and Smart, L. (2001). Active learning within a lecture: Assessing the impact of short, in-class writing exercises. *Teaching of Psychology, 28*, 257-259.

Craik, F. I., and Lockhart, R. S. (1972). Levels of processing: A framework for Memory research. *Journal of Verbal Learning and Verbal Behavior, 11*, 671-684.

Dietz-Uhler, B. and Lanter, J. V. (2009). Using the four-questions technique to enhance learning. *Teaching of Psychology*, 3-41.

Errington, E. (1997). *Role-play.* HERDSA green guide; No 21, ACT: Higher Education Research and Development Society of Australasia Incorporated.

Errington, E. (2005). *Creating learning scenarios: A planning guide for adult educators*. Palmerston North: Coolbooks.

Halonen, J. S., Brown-Anderson, F., and McKeachie, W. J. (2002). Teaching thinking. In W. J. McKeachie (Ed.), *McKeachie's teaching tips: Strategies, research and theory for college and university teachers* (11th ed., pp. 284-290). Boston: Houghton-Mifflin.

Huxham, M. (2005). Learning in lectures: Do interactive windows help? *Active Learning in Higher Education*, *6*(1), 17-31.

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

Mayer, R. E. (2004). Should there be a three-strikes rule against pure discovery learning/ *American Psychologist*, *59*, *14-19*.

Ramsden P. (2003). *Learning to teach in higher education*. London: Routledge.

Tomcho, T. J., Wolfe, W. L. and Foels, R. (2006). Teaching about psychological disorders: Using a group diagnostic interviewing and diagnostic approach. *Teaching of Psychology*, *33*(3), 184-188.

Yoder, J. D., and Hochevar, C. M. (2005). Encouraging active learning can improve students' performance on examinations. *Teaching of Psychology*, *32*(2), 91-95.

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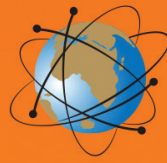For further information, please contact:

Head
Asian Centre for Research on University Learning and Teaching (ACRULeT) Faculty of Education, UiTM Section 17 Shah Alam 40200 Selangor Malaysia
Tel   : 603-5522 7409 / 7432
Fax   : 603-5522 7412
E-mail : ajue09@yahoo.com