

**New Practices in Flexible Learning**

***Virtual Worlds – Real Learning!***

**A psychological perspective**

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## Overview

The use of role play in *virtual worlds* as an educational method has a range of components on which psychological frameworks can inform. ‘You can learn more about a person in an hour of play than in a year of conversation’ – Plato.

Identity formation is a key developmental task of adolescence and role play allows participants to experience new identities and how these identities interact with others, thereby developing interpersonal skills. The *virtual world* provides an ‘adventure playground’ for personal development and allows the participant to experience consequences of relating as a particular identity without direct consequence in the physical world.

Psychological principles can augment the use of *virtual worlds* as educational tools to develop inter- and intra-personal skills as a component of the process of meeting specified learning objectives. A range of considerations for educators in utilising role play in *virtual worlds* are explored in the following discussion. Development of role-play scenarios that create sufficient stimulus to facilitate learning, while maintaining the participant in a context that is not too demanding and therefore disruptive of learning opportunities, requires consideration from a psychological perspective. Creation of the optimal context for learning is an essential element in utilisation of *virtual worlds* and role play as teaching tools. This report also provides reflections from a psychological perspective on outcomes specific to the **Virtual Worlds – Real Learning!** project undertaken by GippsTAFE.

## **Psychological principles reflected in the *Virtual Worlds – Real Learning!* project**

### ***Developmental task of identity formation***

Psychological interventions are most effective when responsive to the developmental stage and learning style of the participants. In essence the therapeutic equivalent of play, as utilised for children, for adolescents is adventure. Role play, in this instance within a *virtual world*, suits perfectly the imperatives of adolescence: learning to take appropriate risks, mastery of real-world problems that have tangible consequences and refining judgement of one's own and others' capabilities and limits.

The level of anonymity afforded in *virtual worlds* through playing a role and use of an avatar can enhance the level of social confidence to enact new behaviours and increase self-awareness and efficacy. The degree of overlap between self and role/avatar is the point at which an individual projects their personality or qualities onto the avatar/role. Key contributors to identity, such as self-esteem, social context, interpersonal template and physical appearance, are able to be manipulated in design of the avatar/role and aspects of the context in which the avatar operates.

As an avatar, the individual is once removed. This provides the opportunity to observe oneself in interaction with others, process experiences and integrate learning from a position of observing oneself. Adoption of attitudes of others, as if they were our own, and social interaction on the basis of the adopted attitudes (playing a role) throws the basis for the action into relief and can thereby assist in identifying one's own belief systems and attitudes. This reflexive process also highlights how we construe the set of expectations others have of us. The suspension of belief in role-play simulations allows participants to explore attitudes, beliefs and modes of action they may not otherwise adopt. In adoption of a role, one assumes the position of another to explore its implications, is open to possibilities one may not have previously considered and also develops understanding of the consequences when these attitudes and beliefs form the basis of action. The process of engaging in role-play simulations makes these attitudes and beliefs explicit and open to inspection (Linser 2004).

Acting as an avatar in a *virtual world* context provides a safe environment for identity experimentation, as personal beliefs are sheltered by the role/avatar and the fact that real identity is not exposed enhances participants' willingness to explore potential aspects of self. The potential threat to one's core identity/self posed in real-world interactions is reduced. 'Where virtual effects substitute the real consequences of actions, students become free to explore issues, values, beliefs and attitudes they would otherwise feel emotionally constrained to explore' (Linser 2004, p 3). Greater risk taking may be facilitated given the absence of direct negative consequences experienced in the real world.

### ***Utilising role and building social competency and personal resilience***

*Humans are capable of seeing themselves in the act of seeing, of thinking their emotions, of being moved by their thoughts. They can see themselves here and imagine themselves there; they can see themselves today and imagine themselves tomorrow... (Boal 1992, p xxvi)*

Consistent with the process of identity formation, the development of interpersonal efficacy and resilience forms a key component of adolescence. Creation of an environment within a *virtual world*, such as the Paluma resort simulation, enables elements of real-life environments to be included in the virtual environment. Through interacting in this constructed environment, in adopting a role, learners can change the relationships between themselves and the environment from those in real life and test out the consequences of these altered relationships. The process generates reflection on how the real-life self and the role act in the virtual environment and provides experience of how others respond to the role. Author Zadie Smith, as quoted in *The Age* newspaper, states: Writing a novel, reading a novel is an ethical enterprise, a practice place for morals where we watch, in safety, people choosing what they must do, and what they lose when they choose wrongly; that is the closest possible rehearsal for the real thing,...' (Edemariam 2006). Engagement in a role-play simulation within a *virtual world* adds the element of observing oneself in behavioural rehearsal for real-world contexts. This reflective process can form a key element in attitude and belief system change and interpersonal skill development.

As argued by Linser, Waniganayake and Wilkes (2004), role-play simulations provide a collaborative process of constructing knowledge in context. The experience of problem solving in an interactive environment and the awareness of the possibility of unforeseen consequences of actions can facilitate reflective and integrated learning of course materials. In the above authors' 'Different Lunch' simulation for early childhood educators, participants were faced with choices which raised cultural, ethical and social dilemmas reflective of real-world professional experiences. The simulation provided a platform to test out a range of responses and consequences of these responses, providing experiential training that augmented theoretical materials. Role play in a *virtual world* provides opportunities for behavioural rehearsal of skills critical to social efficacy in the real world. This process of experiential learning can significantly impact on participants' identity and personal belief system.

A range of factors determine the degree of role adoption and emotional salience attributed to the role or avatar. These factors require consideration in designing simulations, as they directly affect the potential to generate psychological change and impact on identity. Time spent 'in role' is a critical factor. In the 'Different Lunch' simulation, spending one hour per day 'in role' over a three-week period maximised the degree of 'persona'–individual overlap.

The level of anonymity of the role/avatar provides protection of the individual's core identity and also affects potential psychological change. Kazdin (1995) demonstrated low uptake rates among adolescents referred to psychologists for therapy. Engagement is a critical factor in establishing the platform for therapeutic intervention. Kids Help Line has recently provided online services and found that a substantial number of young people who would not be prepared to phone a counsellor, let alone make an appointment to see one face-to-face, felt comfortable using the anonymity of text-message exchange.

Translation of experiences and social skills gained in a *virtual world* to the physical world is another factor that can be manipulated. Increases in social confidence/self-efficacy are enhanced when the experience is repeated across a number of contexts. If an individual gains a sense of competency in a range of relationships and contexts (at home, at work and at play), the change is reinforced and therefore more robust. Again, the time spent 'in role' affects underlying change. To repeat experiences 'in role' across contexts leads to greater correlation with self/identity and sustained change rather than the belief that 'it's only the avatar or the "resort manager" that can do that'. Skill to perform tasks or traditional learning is often achieved through the

transfer of facts and knowledge. It is the process elements, the adoption of role and interaction with others within this context, that are more closely linked with attitude or belief system changes.

Andersson (2006) reports that research supports the value of minimal-contact intervention for social skill development, such as therapists referring clients to 'self-help' books and materials. Some clinical work is currently undertaken through Internet email or chat systems or video conferencing in efforts to increase accessibility. Exploration of e-therapy techniques has identified that feedback from the clinician is more immediate than when psycho-educational material is used to augment face-to-face treatment and that such material can be delivered in a more structured, supported manner over the Internet.

### ***Duty of care/dignity of risk***

Building resilience relates to increasing an individual's capacity to effectively process disturbing or challenging aspects of experience and build on the positive elements of the learning opportunity. As stated earlier, risk taking is a key developmental process of adolescence. Through experimentation in social interactions, coping skills and a stronger, positive sense of self can be developed. In designing simulations in *virtual worlds*, educators need to consider the conditions that 'facilitate' both learning and psychological resilience. It is important to balance the factors discussed above to allow for the dignity of risk without abrogating duty of care – perhaps more accurately seen as attributing respect to the learner.

The critical element of 'de-roling' and debriefing the role-play experience for all, teachers and students, is informed by psychological frameworks. The novel environment created in a *virtual world* and adoption of a role can raise unintended consequences for some individuals. This may occur when an aspect of the environment or interaction within the role play triggers a previously unresolved psychological conflict. The role of the moderator and the level of debriefing are critical factors in identifying and responding to potential trauma activation. The interpersonal impacts of acting 'in role' and experiential learning require moderation to facilitate positive outcomes and ameliorate any unforeseen negative consequences.

## Parameters specific to this project

### ***Second Life as the virtual world***

The specific features of the chosen *virtual world* will impact on elements critical to the learning context. Aspects of Second Life interact with the processes educators may wish to manipulate to achieve specified outcomes within psychological frameworks. Second Life uses text-based communication, similar to SMS, and therefore there are no audio cues. This enhances anonymity, as participants, if familiar with others in the group, can recognise others' voices when audio communication is available. Text-based communication raises consideration of literacy levels, which must be addressed in considering the target group. There is also a level of technical proficiency required to simultaneously type and manipulate an avatar – and that also requires consideration.

As Second Life is freely accessible to the broader population, consideration of exposure of students to aspects of the environment is required. Within Second Life it is possible to acquire land and thereby contain an educational experience to an environment specifically designed for the particular project. Decisions on whether to restrict students' access or allow full access to Second Life need to be taken in consideration of their developmental stage and learning styles and the objectives of the project.

### ***Warragul VCAL group***

The VCAL students involved in the Warragul-based trial were all in late adolescence and were mothers. Being parents at a relatively young age had affected their capacity to engage in education and in many ways their identity was linked to motherhood. The students were in a regional location often considered to have restricted access to technology and diverse social environments. They were close to the final stage of their program and therefore there was a high level of familiarity between them. There was also a strong relationship between the teacher and the students, who had worked together for about two years. There was an established commitment to the program on the part of the students and consistently high levels of participation.

## Key factors addressed in this reflection

### ***Psychological considerations of features of virtual worlds***

In *virtual worlds* an individual has the chance to experience (within defined parameters) different constructions of social mores, expectations and conventions. The absence of cues present in physical-world communication, such as some non-verbal expressions, and the absence of tactile stimuli can create an opportunity for deeper reflection than is usual when these cues are present. Text-based communication can enable greater focus on other elements of communication and allow for consideration of the communication in the absence of the emotional salience often contained in non-verbal aspects of communication.

The different parameters of virtual environments compared to traditional classroom learning or face-to-face role plays allow for the utilisation of psychological factors linked to outcome objectives, such as increased self-esteem. *Virtual worlds* can provide a context in which non-verbal cues are missing, preconceived social expectations can be challenged and informal authority relationships of the real world can be manipulated. Visual status markers can easily be altered and designed to address critical elements of the simulation and form cues to new social relationships. The speed with which the *virtual world* can be transformed to meet specific needs and objectives, compared to more traditional resources, provided for high levels of responsiveness to the project's aims.

The real world is unpredictable; in simulated environments educators can manipulate the critical elements or contain the level of unpredictability so project goals form the key focus. 'Presence' in a *virtual world* relates to the degree to which a person suspends belief, embraces the experience and has a sense of 'being there'. Research has demonstrated that the degree of presence (role adoption that correlates with self) is a significant factor in effective psychological interventions in therapeutic virtual reality programs (Tattam 2001).

Anonymity forms another factor that can be calibrated to suit purpose. In the Warragul VCAL trial all participants knew who had adopted the various roles within the resort. Most of the time the students worked in the same room together so could communicate 'out of role'. This provided for:

- instant problem solving, with support in using Second Life provided by those more technically able
- expectations and assumptions that each avatar/role would behave or respond in a manner consistent with prior experience of the person adopting the role – the high level of familiarity among group members supporting this awareness of each other's interpersonal styles
- strong group cohesion
- availability of the teacher for immediate 'on the spot' support, reflection, debriefing and translation of the virtual experience to the physical world.

In cases of increased anonymity, when participants log in alone at separate locations and don't know who is playing which role/avatar, the following factors are facilitated:

- greater willingness to take risks ('I wouldn't normally speak up like that but as *Isobel* I can...')
- fewer preconceived perceptions as to how other roles/avatars will act or respond.

The use of avatars and role play can suspend preconceived social judgements and gender and status expectations. For example, when one of the participants in the GippsTAFE trials assumed an avatar as a dragon, she experienced a shift in interpersonal interactions and others' responses to her in the *virtual world*. The inhibitory barriers that to some extent translated when assuming a 'human' avatar were lessened, providing a platform for greater experimentation and risk taking.

### **Considerations for educators**

It is critical that simulations, role plays and use of virtual environments are matched to the purpose and goals of the learning experience. The use of a virtual environment is one of many available ways to deliver education objectives and should be seen as a complement to existing tools and methods rather than a replacement for these. The key lies in matching the tool to the purpose. Resource implications must be considered and educators must assess whether the objective requires the expense and complexity of a *virtual world* approach. The provision of an educational experience within a *virtual world* can have many aims, which will vary in priority or weight in terms of the overall course objective. Second Life, as an example of a *virtual world*, can be seen as a useful tool for specific purposes rather than a universal answer for all educational objectives and student groups.

Teachers utilising *virtual worlds* should expect a diversity of reactions and uptake from both colleagues and students. It is probably best to expect some resistance from some staff and students, as is often the case when new methods are introduced in educational domains. Sound processes that provide initial training and communication of the project's rationale can facilitate acceptance. The **Virtual Worlds – Real Learning!** project highlighted the importance of setting curriculum objectives first, being clear about the purpose for which a *virtual world* is to be used and engaging collaborators for the life of the project.

Role clarity and managing the demands of stepping outside the clearly defined role of teacher when enacting role play in a *virtual world* can be problematic for teachers. Traditional educational methods may differ from those needed in virtual environments, as the students' familiarity with the environment and technical competency can be greater than that of the educator. In many aspects the teacher may experience a role inversion, in that students 'teach' the teacher in many aspects of the *virtual world*. When assuming a role within the *virtual world* scenario, the teacher can't act as external observer of the students, as in traditional educational methods. However, acting as a part of the simulation provides the teacher with opportunities to directly mentor and facilitate development in students within the altered relationship dynamic. There are advantages and potential disadvantages of relating to students within a different context, such as a role play or *virtual world* scenario, both of which, through considerate moderation and support, can be effectively managed to enhance learning and reduce the negative aspects of role confusion or ambiguity.

Linser (2004) discusses the de-centring of the learning process within simulations as changing the traditional learning dynamic from teachers' priorities to students' decisions. The 'staff team' created in the Paluma Resort simulation shifted the traditional classroom power relationships and teacher–learner dynamic. Linser, Waniganayake and Wilkes (2004) discuss the shift in students' perceptions of teachers in the role of moderator as compared to teacher and consider the shift in authority relations as it affects the learning process. The shift in the educational dynamic enhances students' role in the process and allows teaching and learning of concepts through problem-based learning strategies.

The selection and sequencing of activities forms another key element for consideration. The demands of the activities and focus on role aspects should be manipulated to maximise the benefits from social interactions and intra-personal therapeutic change targets, such as increased social competency.

On reflection on the *virtual world* simulation in one of the GippsTAFE trials, the teacher commented that she noted an increased level of engagement in the students and marked improvements in self-esteem and social confidence in students. Psychological instruments could provide base-line, immediate and longer term outcome measures of aspects such as self-esteem, coping styles and self-efficacy. It would be useful to examine in greater detail how long noted change was sustained and under what conditions and for which students change occurred and was maintained over time.

Educators have the responsibility of managing potential negative consequences of students engaging in *virtual worlds*. It is recommended that universal protection strategies be employed and all students be provided with protective information, such as 'Net-etiquette' programs, before engaging in *virtual world* simulations. It is important that support and immediate debriefing is available through a trusted, informed person; in most cases the teacher of the student group is best situated to fill this role. Resilience can be fostered by reinforcing and developing coping strategies employed in the role-based interactions, such as assertion, asking for help, using appropriate authorities to resolve conflicts and translating the virtual environment experiences to the real world and learning objectives.

### ***Processing role and debriefing***

It is critical for learning to be applied in all aspects of the students' social environment and not restricted to the *virtual world* scenario. Educators should expose students to a range of contexts in which they experience social efficacy for change to be integrated and sustained. Debriefing from role involves translating the positive aspects of the simulation experience to self, rather than the student seeing them as belonging only to the avatar (that can be designed to conform to a physical ideal) or feeling confident and able only when acting 'in role'. Expanding the social situations in which the learner can practise skills and experience efficacy will reinforce learning and increase application in future contexts.

The process of 'de-roling' and debriefing enhances skill development and sustains change over time. The process enables students to detail their experiences and relate these to objectives of the scenario and the specified learning objectives. Unforeseen outcomes and experiences can be identified and discussed. To integrate learning and personal development, students are encouraged to reflect on the relationship between self and role and the learning that is gained through playing of a role. It is important to reinforce positive outcomes and experiences and contextualise them to identity and the real world.

Individual experiences based on external factors, which may have been 'triggered' by the *virtual world* simulation, should be identified and processed. It is such issues that may require the educator to refer to others, expert in debriefing, rather than dealing with them within the teacher role. The teacher's knowledge of, and style of relationship with, the student group is a critical component in fulfilling the support role and navigation of potential risks.

## Reflection on outcomes specific to this project

It was noted that some students experienced anxiety about meeting course objectives over the period of the project, as they felt ‘this isn’t real work’. Teachers have an important role in managing such anxieties and linking the learning within the *virtual world* to course objectives and translating gains to the real world of the student. Members of the student group also played a critical role in supporting each other and managing individuals’ anxieties. This served to reinforce the active collaborative learning that occurred in the *virtual world* simulation.

In this project the degree of role–self overlap was limited and therefore extensive debriefing was not a critical component. The restricted level of role assumption was determined by the time students spent ‘in role’, the degree of anonymity ‘in role’ and the contexts across which students acted ‘in role’. There were some elements of personal exposure when ‘in role’ and these varied depending on context and individual personality. Each Warragul VCAL student, within their role as part of the resort staff, undertook a job interview and performance review. The level of commitment and engagement in role was evident in the degree of preparation for interview and the expressed anxiety experienced in the process (‘I was nervous, I had sweaty palms, I really wanted the job’).

The variation in responses to role experienced by students and project participants alike related to personality, age/developmental stage, expectations about *virtual worlds* and prior experience of them and similar technologies. De-roling and debriefing processes required also related to the degree of personal investment in the *virtual world* experience. The *virtual world* scenario mirrored many workplace experiences: frustration, working under pressure, collegiate relationships and professional communication processes. These experiences were provided in the absence of risk to ‘self’, which perhaps lessened anxiety and so facilitated learning. Risk taking tended to be less anxiety-provoking than in real-life situations as ‘it wasn’t really me’.

### **To conclude:**

The *Virtual Worlds – Real Learning!* project represents an initial step in terms of manipulation of factors relevant to identity and interpersonal efficacy. The psychological principles discussed represent one aspect of the overall project and relate to process elements to a greater extent than task-based skill acquisition or attainment of traditional educational objectives. In consideration of relevant psychological principles, it is important that the design of *virtual world* experiences in education clearly identify the project’s goals and utilise the elements best suited to achieve the desired outcomes. Psychological frameworks can provide useful constructs pertinent to the parallel processes that occur when using role play as a component of learning and when targeting interpersonal efficacy within the educational experience.

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