

New Practices in Flexible Learning

Virtual Worlds – Real Learning!

Multiplicity of roles

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Table of contents

Introduction	5
Multiplicity of roles.....	6
Overview.....	6
Teachers considering learners	7
The teacher as an explorer.....	7
Teacher as learner	8
Teacher as an avatar.....	8
Teacher as a client	9
Teacher as an inductor.....	10
Teachers providing guidance	10
Flexible teacher	11
Teacher as a planner.....	11
Teacher as an innovator in range of possible approaches.....	12
Teacher as a debriefer	12
Teacher as an industry expert.....	13
Teachers as preparers	13
Teacher as facilitator	14
Teacher as a communicator.....	14
Teachers changing.....	14
Future roles of the teacher	15
Conclusion	17
Bibliography	18

Introduction

Virtual worlds provide learners with a unique learning environment and teachers with a complex delivery tool and, potentially, a highly rewarding opportunity to enhance/broaden their teaching practices. They provide the teacher with an opportunity to experiment with different teaching roles and approaches; such occasions are less likely to arise in a traditional teaching environment.

Teachers can bring the best of their teaching techniques to a *virtual world*. However, they should also seek to exploit new opportunities to enhance existing skills. They should use *virtual worlds* to consolidate selected elements of their usual teaching practices, explore new aspects of teaching or simply experiment in ways not possible in the traditional classroom. Such online delivery will, as Lamb (2006) suggests, involve the need for teachers to develop and enhance their online teaching methods.

Many tasks and roles must be undertaken for a *virtual world* to successfully be used as a teaching tool. The teacher must be prepared to assume a variety of roles – which will vary between learner groups and teachers. This multiplicity of roles is one of the appeals of using *virtual worlds* with a group of students. This paper seeks to explore some of the many roles a teacher may have to consider undertaking in using *virtual worlds* to achieve sound educational outcomes.

The observations in this paper are based on the three trials conducted at Central Gippsland Institute of TAFE (GippsTAFE) during 2006. This project, ***Virtual Worlds – Real Learning!***, was funded under the Australian Flexible Learning Framework's New Practices in Flexible Learning program.

The trials involved students over the age of 18. The three groups were a Warragul group comprising young mothers studying for the Victorian Certificate of Applied Learning (VCAL), a Yallourn group of 'painting and decorating' students and a Leongatha group of VCAL students. The teaching approach varied significantly between trials – detailed information is available in the ***Virtual Worlds – Real Learning!*** resource.

All trials were undertaken in Second Life® (www.secondlife.com) involving the use of both GippsTAFE's private island there and the wider Second Life world.

Multiplicity of roles

Overview

Every now and then we will come across a situation or participate in an activity that has a profound effect upon our educational thinking. The experience may force us to reflect upon our current practices or require us to explore approaches which may not easily resonate with our usual *modus operandi*. For me, the **Virtual Worlds – Real Learning!** project has been one of those experiences.

This project has reaffirmed my long-held belief that the role of the teacher in the VTE sector is highly rewarding and exceptionally challenging and that it is imperative new ways of engaging learners are constantly explored.

The three GippsTAFE trials have shown that the role of the teacher when using *virtual worlds* is complex and may vary significantly depending upon the particular student cohort and the type of learning outcomes to be achieved.

Whilst I wasn't one of the 'main' teachers per se for this project, as my primary responsibility was that of joint project manager with Glenda McPherson, both of us undertook some of the roles of a teacher at various stages during the project.

To successfully use a *virtual world* with students, the teacher must perform a number of tasks during three phases of the learning – before, during and after the *virtual world* experience. The teacher will, however, need to enlist the support of others, particularly the IT department. The teacher will also need to be open to sharing some of the roles. There are some fundamental roles of teachers but also a range of other roles that could equally be performed by some other staff member.

This multiplicity of roles presents the teacher with a raft of opportunities, or challenges, to consider when exploring the use of *virtual worlds* as a teaching tool. In virtual reality, teachers and students are not bound by all the constraints of the classroom; rather it provides an opportunity for learning to take place in new and interesting ways. The experience is only limited by the imagination of the users. Beeland (2006) suggests that teaching methods need to change to maintain student interest.

We must use innovative teaching methods to maintain the attention of students, who are increasingly more easily distracted, get off-task more quickly than ever before and require instant feedback on progress. (Beeland, 2006)

Virtual worlds have the potential to provide a new and exciting learning environment for VTE students, as their application is not limited to a particular group or subject area.

Brennan (2003) suggests that 'one size [teaching approach] does not fit all' when seeking to engage learners. The same can be said about the use of *virtual worlds*. There is no one model or single 'correct' approach for using a *virtual world*. No one model will fit all circumstances! What is important is that the teacher is sufficiently skilled and flexible to steer the learning through a maze of complex challenges/situations. Teachers need to be agile in their approach and must never lose sight of the educational reasons for using a *virtual world*. It is simply not good enough to log the students in and have them entertain themselves. To abrogate one's responsibility in this manner would be counter-productive and highly likely to

lead to 'awkward' situations arising. Clear educational goals need to lay behind the use of the world.

There is a multitude of possible approaches awaiting exploration, all of which are really only limited by one's preparedness to step outside the boundaries. However, I would suggest that, wherever possible, a teacher should not try to replicate the 'traditional' learning environment. Building a replica of a classroom, where all 'avatars' dutifully sit down observing the teacher at the front of the room, is most likely to result in minimal success. Rather, this technology (*virtual worlds*) should be seen as an opportunity to be different, explore new approaches and to push the boundaries. With this will come changes to the role of the teacher. For some it will be a new paradigm!

Teachers considering learners

It would be naïve of a teacher to feel they could plan all 'teachable moments' that might occur within a *virtual world*. Rather, the teacher must be able to capitalise on any given situation and use it for the promotion of learning. Teachable moments will occur at random – often at the most unexpected times. No longer will the teacher be able to control when and how all the learning opportunities arise.

It is imperative that the teacher considers a range of factors about their learners, including learning styles/learning preferences, IT experience, age and levels of self-esteem and self-confidence. The teacher must also consider which *virtual world* to use and how it is to be used – whether in the classroom or remotely – and the types of learning outcomes to be taught.

Whilst it is useful to understand the learning styles and learning preferences of your particular group, I would suggest that some common assumptions – such as that young learners may be less self-directed than older students – might not hold good in virtual reality. In fact, it might be that the younger learner in a *virtual world* is more self-directed than the older learner because of the medium being used. A younger cohort may be far more willing to experiment and push the boundaries than an older group.

The teacher as an explorer

The teacher will also need to critically consider what they are comfortable with and the type of learning environment they wish to create. Will the teacher's role be an active one in the middle of 'all the action' or will it be more that of an observer, more of a passive role? For example, if debriefing is not the teacher's forte, they must consider who is going to undertake this vital component. Self-reflection (by the teacher) prior to, and throughout, the project needs to be undertaken.

As with any new teaching tool, the teacher must devote a significant amount of time exploring possible uses of the technology. They will need to understand the world and to experience the good and the bad within it. Whilst the teacher may only initially be seen as the 'expert', they need to know how to create, modify and manipulate avatars, be able to construct objects, have an understanding of the world's currency, have an appreciation of the limitations/restrictions of the world and know how to gain assistance and about some of the more common 'nuances' that are peculiar to the particular world.

Teacher as learner

Whilst the teacher may originally be seen as the 'expert', it is highly unlikely that they will hold this position for long. To maintain student enthusiasm the teacher must then modify their role, as they will no longer have the credibility to remain the 'expert'. This may require obtaining the services of someone else. But it also provides the teacher with a golden opportunity to move from being the 'font' of all knowledge to someone who is prepared to increase their knowledge by listening to their students.

This places the teacher as a learner, providing their students with the opportunity to acquire or build upon a range of skills, enhance their communication skills or to simply improve their self-confidence, all of which may contribute to higher-order learning taking place.

You need to spend time in Second Life alongside your students and allow yourself to be taken along for the journey. I believe Second Life is best used as a teaching tool when the teacher plays an integral part in the day-to-day goings-on in Second Life. I believe that, unless the teacher wants to 'get down and dirty' with Second Life, the experiences of all involved will be lessened. The students and the teacher need to be sharing the experience together. It is a time when the teacher should not be expected to be the 'knower of all' and the one to impart knowledge to his/her students. He/she is learning simultaneously with the students and the direction the program takes should not be determined by the teacher but by the students and the teacher together. (Taylor, 2006)

Teacher as an avatar

Who am I at the moment? What are the particular traits associated with this identity? These are questions a teacher will experience from time to time when assuming and playing out many avatars in the one scenario. Through the use of different avatars, the teacher can significantly influence the happenings within the *virtual world*. This is particularly the case where a closed island is being used.

It is important that the teacher has a number of avatars, each performing a different role. Their appearance, character traits, language, 'likes' and 'dislikes' may vary significantly. The students may not know who is behind any given avatar.

In the real world, the students clearly knew myself (Malcom Jolly) and fellow project team member Glenda McPherson through a range of face-to-face meetings/discussions with them. When we were in Second Life as Malcolm Dalglish and Glenda Arrow, the students knew that we were behind the characters and this served an important role. As Glenda and Malcolm, the students knew that they could always turn to us for support/assistance. For some students this was very important and reassuring.

However, at other times I would play out the role of a different character. As GippsTAFE Gonzales, the owner of *GippsTAFE Island*, my attire was more formal; I acted differently and exhibited different characteristics to Malcolm Dalglish. I didn't offer assistance unless specifically asked for it. From the student's perspective, all they knew was that I was one of the project team.

Staying 'within role' did at times become complex and challenging. There is often a blur in the mind of the real person, not only between their real-world and online identities but also between the various online characters they may be playing at one time. Johnston (2006) provides an interesting insight into this experience: 'Without forethought I have become a certain person who looked a certain way and spoke a certain way. Strange. Meaningful, no doubt.'

A very interesting situation occurred when I assumed the role of a female avatar. It was a challenge trying to stay 'within role' as I was taken on a tour of Second Life by some of the 'young mums' group. An interesting experience! I must admit that I nearly got caught out when the students asked me to put on a particular piece of clothing. Not being used to such practices, I was left somewhat floundering. After a few frantic instant messages to the class teacher (Tracey), I managed to appropriately dress myself and continue the journey. Meanwhile in class Tracey was having a good chuckle and struggling to maintain my anonymity.

Teacher as a client

When working with the 'painting and decorating' students, my online character was different again. My role was to be the client, meet the student and discuss with them the type of refurbishment I wanted in my house. The students did not know who I was or where in the real world I was located. I was simply 'the client'. In order to get to know me the student had to question me, ascertain my 'likes' and 'dislikes' or form assumptions based on my appearance or mannerisms.

At times Malcolm Dalgleish might be passing 'through the neighbourhood'. If the 'painting and decorating' student came across Malcolm Dalgleish, a very different conversation would take place. Because Malcolm Dalgleish was associated with managing the project, I could ask very different questions, offer assistance and so on. I could ask how the client was, about their 'likes' and 'dislikes' or whether the student needed anything else.

It is important that students know support is available through particular people (avatars) but it can also be extremely powerful for the teacher to assume other identities. These characters may simply be people passing by or standing around observing – their use provides the teacher with wonderful material when conducting a debriefing session.

Such an exercise opens up a countless number of possible learning situations. Although all avatars used in the project trials were 'nice', some powerful sessions could take place in virtual reality with characters not so pleasant. This was, in fact, a suggestion from the 'painting and decorating' students.

Whilst the experience closely resembled the real world in many aspects, ie the time taken to return messages etc, it would have been an interesting experience to have had to deal with an uncooperative client or rude client. ('Painting and decorating' student, 2006)

Although it wasn't part of the exercise, you could set up some very interesting scenarios examining the issues of ethics, formal reporting lines, informal communication channels, confidentiality and so on.

Teacher as an inductor

How to induct students into the *virtual world* is a question that all teachers will have to spend time considering. A variety of approaches could be used, each of which may see the teacher assuming a different role along with approaching the induction in a different manner. Questions to consider include: Do I seek to control the process or simply let the students go and be there if required? Another question: Do I conduct a formal induction process? The decision might also depend on whether the students are using the world as part of a formal class or independently. It is worth bearing in mind that the initial experience in a *virtual world* is likely to have a significant impact upon some of the students' long-term perceptions and whether they wish to continue to participate.

Before inducting students into a *virtual world*, it is important that the teacher has spent some time gaining an understanding of the particular protocols/customs/habits applying to that world. In the real world we don't simply enter someone's house uninvited. Yet enthusiasm or inquisitiveness means these normal social conventions are often broken in virtual reality. This is particularly the case with inexperienced participants. Sometimes trial participants would innocently go marching through people's houses seeking inspiration or trying to collect items, feeling that, if they weren't wanted there, a security system would ban them. One of the more experienced project members had to point this out – it now seems so perfectly obvious. The teacher may need to provide guidance as to what is acceptable behaviour or provide support if a student finds themselves with an angry avatar.

The role of the teacher as inductor varied between the three trials. In the case of the Warragul 'young mums' group, the teacher worked closely with the learners, providing them with some clear ideas of what to do and then providing advice and guidance as required. Whilst the teacher initially was the 'expert' – providing advice on how to navigate through *Orientation Island* – this very quickly changed.

Sure, the teacher may guide the students to undertake certain activities or to achieve predetermined goals but not to lead them there and have the students follow. The way the goals are met needs to be flexible so that the students feel they have control over their destinies. (Taylor, 2006)

Issues such as duty of care/dignity of risk and safe/protective behaviours were handled along the way in face-to-face discussions facilitated by the teacher.

Teachers providing guidance

For the 'painting and decorating' students the induction was handled by Glenda and I in a formal classroom setting. The teacher participated in the induction process by being immersed in the induction alongside the students. Issues such as safe behaviour and seeking help were covered in a formal manner as students were being taught to log in and navigate their way around selected areas of Second Life. The subject teacher was on hand to provide assistance if required, their role being more of supporting and guiding the student. Glenda and I were also logged in as Malcolm Dalgleish and Glenda Arrow. Gradually the face-to-face instructions subsided as students became more familiar with their avatars and using the different communication tools within Second Life.

When the Leongatha students undertook their induction, they were part of a large number of people attending the grand opening of Paluma (the resort the Warragul group had built on GippsTAFE's island).

The Leongatha students' induction began with a face-to-face session delivered by the project managers. However, many issues (such as protective behaviour) had previously been discussed with their teacher. For their participation in the grand opening of Paluma, the students were allocated avatars. Passwords were entered for them and their movements were restricted to our island. Rather than have the students formally undertake *Orientation Island*, they were provided with basic instructions. The Warragul group (acting in-role as resort employees) undertook the task of orientation and showing off the resort's facilities. The Leongatha students learnt how to walk, fly, dress and otherwise alter their appearance, dance, go sailing and use the water slide. Resort staff were constantly on hand to teach them how to perform such acts. This all took place online without the students having ever met face-to-face. The Leongatha teacher was on the island, being inducted as well as supporting the students. The Warragul teacher was with her students – in playing her role of gardener. In their resort staff roles, the Warragul students had to deal with many and varied issues as situations arose. This saw the students deal with a level of complexity and sophistication that would be exceptionally difficult to replicate in the classroom. Throughout this time, other visitors (from around the real world) were 'dropping in' to Paluma Resort. These people had different needs and wants.

Flexible teacher

The role of the teacher varied significantly between trials and changed at different stages of the project. One common element was the need to be flexible. Flexibility on the part of the teacher is essential for success in using virtual reality in education. You can't plan or control all the happenings.

How we had imagined the resort launch would take place was not what actually occurred when the visitors arrived. Whilst on this occasion the students were restricted to GippsTAFE's island, many of the interactions that played out were outside the immediate control of the teachers. Nevertheless, all the teachers were gaining ideas, observing the behaviours, witnessing the successes and sharing conversations, along with giving something of themselves – all of which provided great material for later use.

Teacher as a planner

Whilst some of the roles outlined in this paper could be performed by people other than teachers, a core responsibility of the teacher is determining the specific learning objectives to be taught – and how the *virtual world* is to be used.

The two are very closely linked. For example, if the only use was to be to hold a few conversations with strangers, the length of stay and frequency of use would be significantly less than if the teacher wanted the students to collaborate with a number of others to perform a particular task.

Is the world to be used to develop communication or subject-specific skills, enhance self-esteem or provide opportunities to explore different roles, or for individual or collaborative work? Will students have to respond to particular events/scenarios? Will they be required to undertake research? Build structures? Earn money? Complete a series of prescribed tasks – or a blend of these and more?

The teacher must spend a significant amount of time reflecting upon the various merits or challenges associated with any particular strategy. However, the teacher is probably highly unlikely to be able to foresee all potential issues.

It is important that the teacher provides some structure, particularly early on. 'With no quest to fulfil, it's hard for newbies to know what to do', says Robert Hof (2006), describing a first venture into Second Life.

Teacher as an innovator in range of possible approaches

When considering the possible uses of Second Life, the project team was very keen, and made a conscious effort, to refrain from simply trying to replicate GippsTAFE within Second Life or even to build an online classroom. We couldn't see the advantages of having students log into a *virtual world* so that they could sit around a virtual classroom. We wanted to make the learning experience different! As Border (2006) noted, it's unlikely that just attending canned lectures would hold people's interest for very long.

The Warragul VCAL students 'dipped' in and out of Second Life reasonably frequently. Often they would plan a task in the real world, then carry the action out in Second Life. When the students were constructing the resort, they were 'in' for longer periods. With this group Second Life was used as part of face-to-face classes. Access was restricted to class time with the passwords for the avatars controlled by the teacher. These avatars were not available for the students outside of the class. If students wanted to use Second Life outside of class, they were required to register their own avatar.

The Leongatha students experienced Second Life for only a few hours. The goal was to expose them to Second Life and provide them with the opportunity to interact with the resort staff, communicate online and make comments about the resort and its facilities.

The 'painting and decorating' students created their own avatars at the induction session and they controlled their passwords. Access to Second Life was made available at the institute but they were free to use the same avatar at home if they so desired. A lot of learning took place through interactions with the wider Second Life community. Before students went off into the wider world, they had been prepared for dealing with negative places and people and shown how to report an offence and remove themselves from an uncomfortable situation through, for instance, teleporting back to GippsTAFE's private island. In theory access was 24/7 which meant that, each time the teacher logged into Second Life or their email, there could be a host of requests from the students.

Teacher as a debriefer

A particularly important role in using *virtual worlds* as a teaching tool is that of debriefing the students. Debriefing serves a number of purposes, both educationally and socially. When and how debriefing takes place depends on the nature of the particular group, the type of interactions taking place and the educational outcomes being covered.

Virtual worlds provide a great opportunity for students to test ideas, probe and push the boundaries and encounter new experiences – hence the need for debriefing. Remember, you are often asking the students to step out of their comfort zones and to be involved in something that may test their morals, their values and many of their core beliefs. As the teacher you must ensure that you have adequately prepared the students for the experience. For novices/new users you will need to talk about the issues. There is probably no single model of debriefing that is best – rather use what works for a particular group.

What is important is that the teacher is in the *virtual world*, as well as observing student behaviour in class in the real world and generally keeping a close watch on what is happening. There is the need to provide students with the opportunity to talk about what they are feeling and to discuss with them how to cope with difficult or rude encounters.

During this project we held a number of debriefing sessions (all face-to-face in the real world) with the students. The teachers undertook most of these, each regularly talking with their group about the students' learning and feelings. We also conducted a debriefing session at the end of the project in which some project team members and the teacher talked with the students.

Debriefing should not be limited to students; it is highly likely that some other members of the team will need the opportunity to reflect upon what is happening and what they are experiencing. Look out for your fellow teachers!

Teacher as an industry expert

An interesting role that the 'painting and decorating' teachers assumed was that of being the students' employer, who provided each student with the details of a client (name and contact details) and arranged their first meeting.

The meeting took place at a time convenient for the client. Like in the real world, the interior designer had to work around someone else's schedule.

The quality of information obtained from the client meeting depended on the questions asked by the student and their observations of the virtual home.

Back in class the teacher would then discuss the meeting, probing and checking with the student to ensure they had built up an accurate picture of the job. The project team did, however, provide the teacher with a transcript of the student–client conversation. This served three purposes: it allowed the teacher to see what the student was doing, it provided a record for the project team members and it allowed the teacher to provide some pointers to the client.

The process was then repeated after subsequent student–client meetings. Also in class the teacher would work with the student in putting together the necessary product samples. This form of regular debriefing provided a lot of support for the student, minimised any issues and enhanced the learning experience for the student.

This role required the teacher to draw upon their industry expertise and their previous involvement with real-life clients. The use of virtual reality is likely to provide a far better context for such learning than a traditional class setting.

Teachers as preparers

Being 'prepared for class' takes on a very different meaning in a *virtual world*, where learning is not necessarily linear or predictable. The best plans will often go awry as students explore or become distracted or the circumstances alter. It is the teacher's role to undertake a lot of preparation before using the *virtual world*. The learning curve is huge if the teacher is new to *virtual worlds*. And, at the end of the day, nothing can replace the personal experience. Teachers may need to spend many of the wee hours of the morning simply seeing what is out there – the good and the not-so-good.

Teacher as facilitator

An interesting role that the teacher may have to assume is that of facilitator. This may involve steering the learning in a particular direction, providing guidance and then assisting along the way as necessary – all of which can contribute to promoting greater independence of learners. Helping students to become more self-directed learners is an important task of the modern educator.

There is a great need for the teacher to provide opportunities for the student to experience ‘situations’, so they can learn from them and subsequently build upon them, while at the same time being there to support the student.

Teacher as a communicator

In *virtual worlds* the teacher will often need to modify their tried and trusted communication skills. At present Second Life is only exploring the use of voice, so all communication is text-based. For some students this is fine, whilst for others it may present a barrier. However, only having text may also be a major challenge for some teachers, particularly those new to instant messaging (IM).

In Second Life text conversations primarily take place in two ways – through IM and via the general chat area. IM allows the sending of a private, personalised message to a particular person (avatar), whilst general chat may be ‘heard’ (read) by everyone in close proximity. There is, however, the option of ‘shouting’, whereby a message is broadcast further afield, enabling more people to hear it.

Irrespective of the method of text discussion, a new user will experience and have to deal with a number of differences compared to face-to-face communication or use of discussion boards. The main differences are the use of abbreviations and emoticons, distractions, the length of conversations and the disjointedness of discussions.

Probably the easiest way to gain an insight into this is to watch students using software such as MSN™, when they usually have short, abbreviated conversations, full of colourful language and embellished with emoticons, with less-than-usual attention to spelling and grammar. With finesse, the students jump between acquaintances, holding simultaneous conversations with ease. Confident users will do the same in Second Life; the teacher will be privy only to the public conversations, not the private IMs.

Adults are often strongly occupied with ensuring full and proper sentences are used and depth is provided to our conversations. This may not be seen as of such importance by the students. Short, sharp, succinct points may become the order of the day. ‘I found it particularly frustrating that I wasn’t able to write extended responses,’ commented one project participant.

Teachers changing

One of the challenges that took me some time to come to grips with was holding conversations with someone I couldn’t see. For example, it took me some time to get used to the fact I might be chatting with someone in close proximity (able to see them) and they then decided to ‘fly’ off to somewhere else and continue the chat. I felt a little annoyed because this was my time for my conversation and I knew they were off doing other things so my conversation might be secondary.

Depending upon the client group, asking a number of questions together may be confusing or mean that you have limited success in eliciting responses. In a *virtual world* asking more than one question at once is most likely going to result in only one question being answered and the conversation then moving on.

If you want to discuss something in detail with someone, as was the case when our ‘painting and decorating’ students were dealing with their clients, we found it better to be in a place removed from the crowds.

When holding a conversation with students there may from time to time be a temptation to provide more information if they don’t respond quickly enough. There is a need to strike a balance between providing the opportunity for discussion and totally dominating it.

Whilst holding conversations with an individual may be achieved – albeit sometimes with some difficulty – via IM, effective chatting with a group may be more difficult as not all the real-world social norms are carried through into the *virtual world*. Pausing whilst someone is speaking is a standard real-world sign of good manners or correct social etiquette, yet in a *virtual world*, where some of the visual cues are missing, text conversations will often leave people without the opportunity to reply. In fact, by the time you understand what is being said, the conversation may have moved on. The teacher will need to juggle between following the conversations and trying to provide clear directions or instructions.

Teachers who are used to addressing groups en masse may need to rethink because, in a *virtual world*, this is far more challenging. Students won’t sit around listening intently unless it serves their needs. We found that attempting to address a group was difficult. Involvement is truly in the hands of the learner. If they don’t like what you are saying they will simply move on or communicate with someone else and there is nothing you can do about it!

Future roles of the teacher

I would suggest that all the roles identified in this paper will remain in some form but other roles are likely to emerge. Taylor (2006) suggests that, in fact, teachers should ‘throw away’ the traditional concept of the role of a teacher.

I didn’t see myself as a teacher in my role within this project. I wasn’t even a facilitator. I was an ‘experiencer’, just like my students. Sure, I had to consider the bigger picture and make sure the outcomes we had set out for the project were achieved but on the whole I experienced everything the students experienced and loved every minute of it. My greatest piece of advice for a teacher considering using SL would be this: throw away everything you think your role as a teacher is; clear your mind of all things that hinder your ability to ‘experience’ SL for what it truly is, a place for everyone to learn, no matter who you are. (Taylor, 2006)

Second Life will continue to invigorate and excite users with new ideas and facilities; the challenge for educators is how to incorporate them into the learning experience for their students.

Educators must continue to push the boundaries and learn how to incorporate other current technologies, such as blogs, wikis, podcasts, webcasts and videoblogging, and software such as blip.tv (<http://blip.tv/>) into the *virtual world* experience.

As the level of sophistication of *virtual worlds* increases, the type and depth of experiences will constantly change as it is driven by the residents. ‘Second Life is more than a game; there are no set goals; it is a life the residents choose to live.’ (Lamb 2006)

Our experience in Second Life suggests that *virtual worlds* have the potential to be used in many subjects across many disciplines. Whether it is constructing an office, running a shop, developing a marketing campaign, testing digital replicas of products, exploring a novel, re-enacting a television show with a different script or undertaking sociological or psychological research, to name but a few, with imagination you should be able to undertake it in a *virtual world*.

Conclusion

Beeland (2006) suggests that the 21st century learning environment needs to:

- immerse students in accessing information
- engage them in more complex interactive activities
- provide immediate feedback
- allow them to explore a range of alternatives.

Virtual worlds can provide for all of these and more!

When using a *virtual world* as an educational tool, the teacher will need to assume a variety of roles, which may include, but are not limited to, being an instructor, negotiator, designer, moderator, motivator, builder, explorer, companion, instigator, participant, authority figure or merely a passive observer. However, what is essential is that the teacher doesn't try to become the controller and dictate the *what, how when* and *why!*

Rather, the teacher's role is to help ensure that opportunities for learning arise, support is provided and the *virtual world* is used for sound educational reasons. The teacher's role will constantly evolve and will take many different turns along the way. The teacher must be forever mindful of the need to utilise as many opportunities as possible for learning.

There are a lot of possibilities but, for this (educational use of virtual worlds) to take off, students will have to be given their heads and teachers will have to realise the class goes on when they're not around. I love teaching like this; it's surprising, exciting and VERY effective. (Border, 2006)

The challenges with using *virtual worlds* are huge, the rewards are greater and the level of engagement by students is outstanding. As *virtual worlds* continue to evolve, their use in education will change and expand; educators will continue to develop new and exciting learning opportunities for their students. The boundaries of teaching will continue to be pushed.

Making the move to teaching in *virtual worlds* is essentially about a change of attitude and a preparedness to be extremely flexible and to be constantly assuming different roles depending on circumstance – dealing with the unpredictable!

I wonder how teachers will seek to incorporate the emerging *virtual world* technologies of smell, touch and taste.

This project has really only scratched the surface of using *virtual worlds* (in particular Second Life) in the VTE sector. There is the potential for a significant amount of further work to be undertaken.

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