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Avatar Assisted Learning in 3D Virtual Learning Environments

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Background

The ubiquitous nature of the Internet and Web 2.0 technologies (e.g. wikis, blogs, video online, social networks) has contributed significantly to distance learning, however current distance education "has more in common with traditional classroom-based instruction than it does with what distance education can become". The most recent technological development in 3D Virtual Learning Environments (VLEs) has started to challenge the status quo.

VLEs facilitate the shift from traditional teaching and learning to modern settings. Simply put, from knowledge transfer to collaborative learning. The recent development of 3D VLEs (e.g. Second Life) has further advanced this transition which leads to the Self Regulated Community of Learning (SRCL). However, 3D virtual worlds for education shall not be treated as a given, rather it's the conversion from enterprising use to educational use makes them as learning environments.

In recent years, there are ample literature heavily focused on virtual worlds and their usage in higher education, but none of those practices offers clear guidance in terms of Self Regulated Learning (SRL) in relation to the employment of 3D VLEs nor do they address the importance of learning community and its role within SRL in the virtual worlds. In other words, the informal nature of the learning communities formed within virtual worlds and their impacts on learning enhancement have been largely ignored.

One of the significant differences between 3D and 2D VLEs is the spatial exposure of individuals in the form of avatars.

It is worth noting that virtual worlds are not panaceas in solving all the issues facing higher education and improper use of virtual worlds may backfire. In order to prevent it from happening, both designers and end-users shall be aware that what is replicated in 3D VLEs is not the object of a particular point of interest. Nor is it simply the representation of a person in the form of an avatar but the relationship between people, people and objects. However, the effectiveness of such replication is still under investigation.

Research Questions

Avatars are not unique to 3D VLEs. People who are familiar with web 2.0 applications might have already had some experience with avatars. For instance, avatars can be seen in Farmville, a Facebook application. However, one's avatar in Farmville is not visible to others, cannot travel between sites. As a result, a user will not be aware of the presence of others. Avatars in Farmville are more decorative by nature. This gives rise to the use of 3D virtual worlds, because 3D VLEs such as Second Life allow multiple avatars to present at the same time and these avatars can travel between sites by teleporting to a specific SLURL.

The spatial exposure of individuals can be considered as value-add when comparing 3D to 2D VLEs, because presumably it is particularly important in enhancing synchronous learning and collaboration by having increased awareness of other people's presence. However, that assumption will be examined further, i.e. are avatars the best virtual representation of individuals? To what extent the spatial exposure of individuals in the form of avatars contribute to Self Regulated Community of Learning (SRCL)?

Methods

In order to answer the above questions, it's necessary to take a close look at virtual identity issue involved in 3D VLEs mainly through literature reviews plus some live cases studies, e.g. through SL workshops at my university and the PgCert Ed programme which is going to be implemented in world.

Frame

In (Wan and Reddy, 2009) the theory of SRCL was proposed, which derived from the theory of SRL and Community of Practice (CoP) and provided theoretical guidance for educationalists on their future practice in virtual worlds in higher education setting, 3D VLEs in particular. This means, we try to alter the in-world practices from purely technical driven to pedagogy driven, in order to maximize the learning enhancement with the available resources.

Research findings

Virtual identity in 3D VLEs is directly related to the use of avatars, embracing things such as visual appearance of an avatar, user identification; identity as an individual or as a group, etc. The appearance of an avatar and the exactness of an avatar's facial expression and physical movement have been researched by academics and real life practitioners. However, the academic usages of these still remain under explored.

The comparison between 2D and 3D representations of an individual is important. The former is typically associated with certain shape or colour or in the case of web 2.0 - a profile picture and a user name.

Second Life does not allow users to use their real surnames; instead it asks each user to choose a fake one from the drop down list. Although the naming convention in Second Life contributes significantly to the kind of privacy and anonymity of individuals promoted in 3D virtual worlds, it is still necessary to consider further whether such kind of anonymity is proper in higher education setting. In addition, the flexibility of changing avatars' outfits and even body parts (e.g. skin colour, gender) in Second Life will make identifying an individual even more difficult, especially when the profile information of that person in Second Life is incomplete.

Although avatars in Second Life can be customized to look like robots, they are not, because they do not have the capability of memorizing things, nor do they have the kind of build-in logic, e.g. to suggest a previously visited site or recognize a person from the past who happens to be in-world at the same time as the user. Simply put, avatars only serve as the virtual representation of self, thus, the interaction between an individual and his/her avatar is only one-way; avatars do not share the work load of an individual, rather creating foreseeable difficulties or distractions in the learning process. We will investigate further based on the theory of SRCL, to see whether the positive impact of the employment of avatars can offset these limits/disadvantages, e.g. does the use of avatars increase or decrease the number of lurkers? To what extent the self regulated virtual learning communities are capable of de-lurking? Does Second Life provide any effective tools to facilitate this process? If not, what are the solutions? Furthermore, how to distinguish lurkers from legitimate peripheral participants also needs to be taking into account. This is beyond technical affordance of Second Life, involving more pedagogical considerations.

This paper is not done yet, the research is in progress, the intended research outcome is to get proper answers to the above questions.

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