Use and Perception of Second Life by Distance Learners: The Effects of Orientation Session Timing

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Abstract

Evidence suggests that Second Life (SL) is well received by those studying at a distance; however, little has been done to evaluate how a structured orientation session may affect students' use and perception of SL. Consequently, this study explored orientation timing and its effect on a group of students registered in a part-time distance education master's degree program at a large UK University open to international students. An online survey was designed and administered to assess students' use and perception of SL use and whether these variables changed based on the timing of orientation to SL and its subsequent use. A series of Likert-type scale items were organized to gather the following information: student demographics; and students' experience with, and thoughts of, SL. Results indicated that the use of an orientation session close to subsequent use of SL for learning activities did positively affect students' use and perception of SL. Consequently, recommendations from the current findings suggest that if educators foresee a pedagogical benefit to using SL then it is important to ensure that students are provided with a timely and structured orientation to prior to its utilization.

Résumé

Les preuves suggèrent que Second Life (SL) est bien reçu par ceux qui étudient à distance. Cependant, peu a été fait pour évaluer comment une séance d'orientation structurée peut avoir un effet sur l'utilisation et la perception de SL par les étudiants. Par conséquent, cette étude a exploré le moment de l'orientation et son effet sur un groupe d'étudiants inscrits dans un programme de maîtrise à temps partiel, par enseignement à distance, dans une grande université britannique ouverte aux étudiants internationaux. Un sondage en ligne a été conçu et administré pour évaluer l'utilisation et la perception de SL par les étudiants et à savoir si ces variables ont été modifiées en fonction du moment de l'orientation à SL et de son utilisation ultérieure. Une série d'éléments de l'échelle de type Likert ont été organisés afin de recueillir les informations suivantes: les données démographiques des étudiants; et l'expérience des étudiants avec SL, et les pensées à propos de SL. Les résultats ont indiqué que l'utilisation d'une séance d'orientation à proximité de l'utilisation ultérieure de SL pour les activités d'apprentissage a eu un effet positif sur l'utilisation et la perception de SL par les étudiants. Par conséquent, les recommandations des résultats actuels suggèrent que si les éducateurs prévoient un avantage pédagogique à utiliser SL, il est alors important de s'assurer de fournir une orientation structurée et au bon moment avant son utilisation.

Introduction

In higher education (HE), distance education (DE) has increased worldwide. Many educational establishments have embraced online education, with online courses being delivered by a great number of institutions, ranging from community colleges to major universities world-wide (Moore & Kearsley, 2011). While there are still a number of correspondence courses available, for the purpose of this article, the term DE will be used to refer to online DE. Online distance learners have the flexibility to study anytime, anywhere; however, the approach to studying online differs from the traditional classroom setting in that learners study at a physical distance from each other and their instructor. This lack of face to face interaction with their instructor and other students can impact the learners' sense of belonging to a scholarly community (Rovai, 2002). Consequently, studying in this manner can result in students feeling isolated and insecure about their learning (Knapper, 1988), which is known to be linked to a higher risk of DE students dropping out of their studies (Dietz-Uhler, Fisher, & Han, 2008). Communication media used in DE can reduce the feeling of distance and isolation from peers and instructor, and provide opportunities for collaborative learning activities (Bates, 2005). Such media include asynchronous discussion boards, synchronous chat rooms (e.g., Skype) and virtual classrooms (e.g. Wimba). A more recent development in this area is the use of virtual worlds to build a sense of community in DE courses (Steinkuehler & Williams, 2006).

This paper reports on a study aimed at exploring the use and timing of a structured Second Life (SL) orientation session on DE students' use and perception of SL. Two major research questions guided this study:

1. Does a structured orientation session change students' perception of SL?
2. Does a structured orientation session affect students' use of SL?

Literature Review

Virtual worlds have existed in some form for over 30 years. 3D virtual worlds offer an opportunity for networking in a virtual environment, allowing users to interact in simulated 3D spaces; thus, in the context of DE, they provide the opportunity for students to work collaboratively (Dickey, 2005). There are several 3D-world applications available, including Active Worlds, OpenSim, OnLive and SL. These applications provide three important features, an interactive 3D environment, avatars that act as visual representations of users, and an interactive chat (and often audio) tool for users to communicate with each other (Dickey, 2005). Therefore, such environments combine many of the features of Web 2.0 applications such as group instant messaging, voice chat, real-time social networking, and social interaction

There are numerous definitions of a virtual world, which are often contested (Warburton, 2009). Dalgarno, Lee, Carlson, Gregory & Tynan (2011) defines a 3D virtual world as:

> a computer-based, simulated environment in which users are able to immerse themselves, and within which they are able to, through their avatars (computer-based representations of themselves or alternative selves), experience, manipulate, interact with and/or create virtual objects and places that are graphically depicted in three dimensions. The objects and places within a virtual world may be modelled according to those in the real world or may be fantasy based. Most current virtual world applications allow for multiple users and include facilities that enable users to communicate and

interact with one another within the virtual environment. (p. 2)

McKerlich, Riis, Anderson, & Eastman (2011) described them as:

> digital, immersive environments that have three predominant characteristics: they are not a game (in that there is no artificially imposed goal or competitive activities), navigation is by graphic representation (typically an "avatar"), and the 3D environment is constructed and augmented both by the participants and the designers. (p. 325)

In the context of education, educators have begun to see the potential for these 3D virtual worlds to enhance the learning experience, particularly in DE. In these environments, not only can students exchange messages in real-time, they can see the animated images of each other. Avatars, created to represent the user in the virtual environment, can then interact with each other and their surroundings. Interactions in a virtual world can help to build a sense of community in DE courses (Steinkuehler & Williams, 2006). The use of virtual worlds in education has increased in recent years (Hew & Cheung, 2010) and is a pedagogical innovation that has potential for further growth. The most commonly used virtual world in higher education is SL (De Lucia, Francese, Passero, & Tortora, 2009), which was launched by Linden Lab in 2003.

Anyone can create an account in SL and have access to this virtual world at no cost; however, educational institutions looking to develop a "virtual campus" must rent or purchase virtual land. Once individual users have created an account they must create their avatar, which they can design as they please; they can even select a non-human avatar, for example a dragon or a frog. Thus, online identity may or may not be similar to the offline identity (Burbules, 2002). Moreover, multiple online identities can be created, an area that has been researched by Turkle (1995). Such identities may be used in different contexts; for example, Boellstorff (2008) reports avatar appearance affects behavior. Thus, there is potential for students to use different avatars depending on the role and environment in which the student is immersed (Gee, 2004); a function available in SL that is not necessarily available offline. An aspect of this would be students with disabilities being able to participate in online activities that they could not undertake offline. Communication in SL can take place via the chat facility (typing) or by using the audio feature. Moreover, the types of avatar-avatar interaction in SL can be considered richer than those interactions that take place in 2D alternatives; for example, users can point out objects to others and use body language to convey feelings and emotion (Lee, 2009). Therefore, as mentioned previously, SL provides opportunities to support collaborative role-play, by encouraging learners to adopt the role of their avatar (Dickey, 2005). In a virtual health clinic students can adopt the role of the doctor, nurse, patient or patient's family and can therefore experience patient encounters from their different roles, which they can then discuss and reflect upon. This type of environment allows students to take on the "projected identity" and immerse themselves within a role that would not be possible offline (Gee, 2004). Thus, simulated representations of actual locations can be created and crisis situations can be explored in perfect safety (Stott, 2007). Such use of virtual worlds may help students to overcome worries of "getting it wrong" in a real-life setting (Broadribb & Carter, 2009) and they can, therefore, take risks where real-world consequences are lower. Moreover, they can learn through their projected identities (Gee, 2004). Additionally, the use of such virtual learning environments has been shown to facilitate better reflection and discussion between online learners (Kirkup, 2001), which can lead to building better communities of practice (Wenger, 1998). Such reflective processes can be supported through asynchronous discussion boards and other synchronous technologies; however, SL adds the visual aspect of all other contributors within a contextual setting. Moreover, this approach can have significant real-life benefits, since medical students have been observed with improved skills after spending time in SL's virtual setting (Boulos, Hetherington, & Wheeler, 2007).

Indeed, the most common use of SL in education is to provide a space for students and instructors to meet for formal learning, such as tutorials and lectures (Baker, Wentz, & Woods, 2009). This is particularly useful in DE, where students may not have the opportunity to interact face-to-face with their instructor and other students. Thus, the opportunity to hold real-time (virtual) face-to-face student–instructor and student–student interaction has the potential to increase students' engagement with the course and their studies (Childress & Braswell, 2006). Those students who are reluctant to comment in a face-to-face setting, or, indeed, in a more traditional text-based DE discussion forum, may feel more inclined to do so in this virtual world setting. By employing the use of an avatar, students may feel a layer of semi-anonymity that enables them to feel more comfortable contributing to discussions, especially when using a different name to their own for their avatar (Baker et al., 2009). The use of SL can also provide a platform for more informal meetings between students and instructors; in fact, this virtual space can be used for social events. Indeed, it has been reported that by using SL in an informal setting, students felt more comfortable interacting with their instructor and other students, indicating they felt more conformable having everyday conversations, and this carried over into other areas of their studies leading to a strong sense of engagement (Baker et al., 2009). Therefore, it is advantageous to design virtual spaces to favor informal assemblies between students as classmates and SL provides the opportunity to do so. Conversely, many online collaborative learning environments focus on functionalities and disregard the social aspects of learning (De Lucia et al., 2009). In fact, creating a virtual space where students can congregate appears essential to promote a sense of community between students (Berge & Collins, 1995).

Consequently, 3D worlds can be considered as 3D social networks and can have significant advantages over virtual communities based on 2D technologies, as they are considered to produce a strong sense of presence (Witmer & Singer, 1998). The avatar allows users to feel part of the virtual environment, a feeling of "being there" (De Lucia et al., 2009). Social presence is strongly related to learning and has certainly been the focus of much debate in DE (Leh, 2001). Social presence theory has been used to evaluate the extent to which a medium is able to convey a sense of the participants being physically present. Social presence not only depends on verbal communication but also on non-verbal clues, which users have the possibility of expressing in the virtual world setting. While research into social presence in virtual worlds is in its early stages, positive benefits to using SL in terms of promoting presence online have been reported. Students have been reported as enjoying discussions in SL since they could see their own and others' avatars (Edirisingha, Nie, Pluciennik, & Young, 2009). Indeed, a highly visible environment is reported to support the feeling of "being there" and providing a "richer immersive experience" (Warburton, 2009). Virtual worlds in education have also been shown to promote a community of practice, which can extend into real-life collaboration (Jarman & Sanchez, 2008). Bronack et al. (2006) report that virtual worlds offer participants a sense of presence, immediacy, movement, artifacts, and communication unavailable within traditional Internet-based learning environments. Thus, these 3D virtual environments appear to provide the opportunity for a collaborative learning experience and foster a sense of place, presence and community (Dickey, 2005).

Indeed, in their review of virtual worlds, and in particular SL, Warburton and Perez-Garcia (2009) identified seven components of SL that can facilitate innovations in pedagogy: extended or rich interactions, visualization and contextualization, exposure to authentic content and culture, individual and collective identity play, immersion in a 3D environment, simulation, community presence and content creation. The aforementioned benefits of SL provide a rich picture of support for DE. However, while there are many advantages to using SL, there can be some barriers to using it for teaching and creating learning scenarios and, therefore, the use of SL in an educational setting is not without its problems. These barriers have been described by Boellstroff (2008), Garrison and Anderson (2003), and Warburton (2009). Warburton (2009) identifies eight

categories of barriers: technical, identity, culture, collaboration, time, economic, standards, and scaffolding persistence/social discovery.

Therefore, while there appear to be great benefits associated with using SL in education, there are some barriers associated with its use. Nevertheless, it may be that a structured orientation session to using SL may help overcome these barriers. Indeed, (Sanchez, 2009) reports that the main barriers to students using SL are technical issues, interface issues and user expectations. Consequently, an orientation session may help students overcome these obstacles and clear orientation to a new area of learning is well documented as being beneficial to learning. A structured orientation session on how to access and use SL, whereby students are provided with information in advance of using SL and then supported in a tutor-led session in SL on how to access and use the spaces in SL may be of benefit to users and impact on their perceptions and subsequent use of SL. However, while many (Broadribb & Carter, 2009; Cheal, 2009; Clark, 2011; De Lucia et al., 2009) report the use of an orientation session to SL, there is little information in the literature on the structure of this and how this affects students' use and perceptions of SL. Research in students' perceptions and use of SL in DE in its infancy and while there is a small body of work in this area (Cheal, 2009; Cobb, Heaney, Corcoran, & Henderson-Begg, 2009), there is little information available on how a structured orientation session may affect students' use and perception of SL.

Methods

This study involved a survey of graduate level student use and perception of SL when the timing of a structured orientation session was varied across three groups. Ethical approval was sought and received from the university's School of Veterinary Studies' ethics committee.

Participants

The study population was a group of postgraduate students registered for a Distance Education Masters' degree in Equine Science at a large UK University open to international students. These students were registered in a part-time program spanning three years, with years one and two comprising students engaging with the taught elements of the program and those in year three undertaking the dissertation phase. The program itself consisted of 6, 20-credit taught courses and a 60-credit dissertation course. Within the university described in this paper, a course refers to a unit or module within a degree program. There were 30 students registered in each of years one and two of the program and 16 registered in year three; with a total of 76 participants overall.

SL Orientation Session

Students were assisted in setting up SL accounts and were provide with an orientation to SL. On entering SL for the first time, students landed in Orientation Island. At the time of undertaking this study all new users of SL were taken to this space upon entering SL However, students were provided with instructions to teleport to the Equine Science program area on SL as soon as they had selected their avatar. The Equine Science program space on SL was developed by university staff as a place where students could meet (virtually). This area in SL is known as Easter Bush Farm (Figure 1). This space is open to the public and is the only space available to the Equine Science students. Prior to undertaking the orientation session, all students were provided with an SL introductory document, which included information on how to download SL, register and design an avatar, navigate to Easter Bush Farm, and how to move around and communicate in SL. All students were provided with an identical orientation session, which ran for a period of one

hour and involved congregating at the "meeting place" (Figure 2) and then going on a tour of the various spaces on Easter Bush Farm that they had access to during their studies. This orientation session ran for a period of one hour with a maximum of eight students and one instructor. The instructor was a staff member with several years' experience in using SL both as an instructor and as a student. The instructor took the students on a tour of Easter Bush Farm and while doing so used the chat box to provide information on how the various areas would be used for teaching, how students could navigate around the spaces, and answered any questions the students had on using SL. Following this, the students completed a self-paced treasure hunt designed to provide navigational experience and to further familiarize them with the space. All students completed the treasure hunt; however, the time taken for them to do this was not recorded. It is unknown if students visited other areas of SL outside the Easter Bush Farm space. These sessions also provided an opportunity for students to ask questions on how to navigate, change the appearance of the avatar, and communicate with other users in SL. The questions asked by students were broadly similar for all student groups and were mainly around how to navigate around SL and customize their avatar. All communication in SL used the text-chat facility, including the tutorial sessions run in SL. The tutorial sessions held in SL were run as supplementary sessions to augment the learning activities provided within the course virtual learning environment (VLE), which was WebCT. However, while all students were provided with an identical orientation session in terms of the information that was provided to them, the timing of the orientation sessions differed between the different years. These timings are detailed in Table 1.

Figure 1: Easter Bush Farm in Second Life

Figure 2: The "meeting place" on Easter Bush Farm in Second Life

The Survey

An online survey was designed specifically for the purposes of this study to assess students' use and perception of using SL, and whether this changed according to when they were orientated to SL. Students were asked to complete the survey at the end of the academic year (June). All students had used SL during the academic year but their timing of orientation differed (Table 1). Consequently, the time between receiving the orientation and completing the questionnaire also differed between student groups. Data were gathered via an online questionnaire using the Bristol Online Survey tool. The survey mainly consisted of a series of Likert–scale questions, where there was a choice of a number of fixed alternatives. Likert scale questions were used for this survey as they are generally easily understood by respondents and are also an efficient and inexpensive way of obtaining data, especially in an online format. The responses are quantifiable and are easily coded for data analyses. Quantitative research using Likert scale is, however, not without its limitations with researchers highlighting a number of psychometric and conceptual issues (Ogden & Lo, 2011). Therefore, it is important to interpret data generated in this way in the context of participants' decision–making processes.

In addition to five questions on student demographics; age, sex, country of residence, language and previous education, the survey also contained four Likert–scale items that focused on the orientation to SL and their access to, and use of, SL. Questions included the timing of the SL orientation session, the effect of orientation session on their use of SL, if there were problems using or accessing SL, and if they felt there was a clear purpose for using SL in the program. A question on previous use of technologies, including SL, was also included. Open–ended questions asked participants to outline their first thoughts when informed they were to use SL—what they liked about SL and what they disliked.

The survey questions were designed to answer the research questions posed. Therefore, efforts were directed towards linking the research questions to the survey questions. Pre–testing of the questionnaire was conducted with faculty who had used SL and also other DE students who were familiar with using SL but were not in any of the student groups being surveyed. This was done to ensure that respondents understood the questions in the way that the study intended. The

questionnaire was subsequently revised according to the feedback from pre-testing. Once the questionnaire was finalized, it was sent to the study participants by email for completion by the leader of the equine science program. Students were asked to participate voluntarily in the study. No incentives were offered. The survey was designed to take approximately 20 minutes to complete all questions.

Table 1. Timing of SL Orientation Session Provided to Study Participants in the Different Years of the Program

Student Group	Year of study*	Number of Students	Timing of SL Orientation Session	Further Use of SL
1	1	30	**Orientation at program induction:** Orientation session provided during the pre-program induction session and then SL used intermittently throughout the program for course tutorial sessions.	3 months after induction
2	2	30	**Orientation at start of a course:** Orientation session provided at the start of one of the program courses and then SL used almost immediately for course tutorial sessions.	Immediately following induction
3	3	16	**Orientation not linked to induction or a course:** Orientation session provided during the program (not related to any course or induction session) then SL used intermittently	Variable

			throughout the program for course tutorial sessions.		

* At time of orientation to SL

Data Analyses

All quantitative data were analyzed for median, mode and interquartile rage (IQR). Statistical Package for the Social Sciences SPSS version 19.0 was used to perform the data analyses. Pearson (chi-square (χ^2) analyses were conducted to examine the linear relationships between effects of timing of orientation and respondents' perception and use of SL. Kruskal–Wallis tests were used to compare between Orientation Groups, i.e., program year groups in terms of their perception and use of SL. Open text answers were analyzed manually by reading through, inductively sorting into themes, and quantifying the number of comments in each theme. Counter examples within certain themes were sought. Recurrent themes were collated and used to back up or further explain findings from the quantitative data. This manual approach was taken to allow the researcher to be close to the data and have the opportunity to determine to meaning of the data through a flexible process of analyses (St John & Johnson, 2000).

Results

Survey Response Rate and Respondent Demographics

The survey response rate was 60 percent, with 46 out of a possible 76 students responding, to the majority of the questions. There were four male respondents and 42 female respondents, which reflected the demographics of the program. One (2%) respondent was under 25 years of age, 20 were aged between 26 and 35 years (44%), 8 (17%) were aged between 36 and 35 years, 16 (35%) were aged between 46 and 55 years and one respondent was over 55 years of age.

Respondents were from a number of different countries; 23 (50%) were from the United Kingdom (50%), five from the United States (11%), four from Canada (9%), four from other European countries (9%) and four other non–European countries (9%). Twelve percent of respondents did not provide information on their country of residence. The majority of respondents (85%) reported English as their first language.

Seventeen (37%) respondents had completed their last formal program of study in the previous 5 years; however, 13 (28%) had not studied in a formal program for over 10 years and 11 (24%) had not studied in the last 5 to 10 years (24%). Only 5 (11%) of respondents had no gap between their current studies and a previous degree. In terms of online learning, only 12 respondents (26%) had studied online previously, with the remaining 34 (74%) never having studied in an online learning format. The majority of respondents were in year two of the program (21), followed by year one (17) and year three (8).

Effects of Timing of Orientation on Students' Perceptions of SL

The majority of respondents (n = 44, 96%) provided free text comments in relation to being asked to outline briefly their first thoughts when informed they would use SL in the program. Three themes emerged from these responses, the main one being that the majority of students stated

that they were intrigued by the thought of using SL and that it sounded like fun (Table 2). However, 15 respondents (33%) reported no interest in using SL as they did not see the point of it. Moreover, eight respondents (17%) were apprehensive about using SL but most were willing to try it. When asked if they felt there was a purpose to using SL in the program, 22 respondents said no (48%) and 24 reported yes (52%).

Table 2. Prevalence of Themes on Thoughts on Respondents Initial Thoughts on Using SL (n = 44)

Theme	Prevalence	Example Quote
Apprehensive	8	"Apprehensive at first" "A little apprehensive but willing to give it a try."
No interest, didn't see the point	15	"What's the point?" "Oh no, it sounded very difficult and technical, but at the same time more like one of these computer games, I couldn't see the point of it."
Intrigued, sounds fun	21	"Intrigued – having never heard of it and excited to learn something new." "I thought it was fun to try, interesting to be introduced to new communication technology"

Nineteen (42%) respondents' were orientated to SL at the start of the program during their induction, 16 students (35%) were orientated to SL at the start of a course within the program and 11 (5%) received their orientation separate from any induction activities or courses. There was no relationship (x^2 = 1.60, p = 0.660) between respondents' timing of orientation to SL and whether they felt there was a purpose to using SL in the program (Figure 3). In terms of the orientation session itself, a high number of respondents felt that this either definitely (22, 48 %) or somewhat (14, 30%) increased their understanding of the reasons for using SL. Moreover, many felt that the orientation session definitely (16, 35%) or somewhat (11, 24%) increased the likelihood of them using SL, with 16 respondents (35%) reporting no difference. Pearson's chi-square analysis was also conducted to assess any relationship between the timing of orientation to SL and whether the orientation sessions affected respondents' understanding of the reasons for using SL. There was no relationship between the timing of the orientation and respondents' understanding of the

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reason for using it (χ = 4.88, p = 0.300); however, there was a relationship between the timing of the orientation and whether the orientation session affected the likelihood of them using SL (χ^2 10.33, p < 0.05) and their opinion of SL (χ^2 = 14.12, p < 0.01). A Kruskal–Wallis analysis was conducted to compare orientation between groups in terms of respondents' perception and use of SL. Results showed that of the 18 respondents who received an orientation at the start of a course (Group 2), a greater number of respondents (p < 0.05) reported this session either definitely or somewhat increased the likelihood of them using SL and changed their opinion of SL (χ^2 4.51, p < 0.05) (Table 3) compared to Groups 1 and 3. It is noteworthy that the timing of the orientation and subsequent use of SL differed between groups, with Group 2 using SL immediately after the orientation session, Group 1 had three months between orientation and use, while for Group 3 the time lapse between orientation and use was variable, since use of SL following orientation depended upon when each individual decided to use it. It is also of note that Groups 1 and 2 used SL for structured tutorial sessions that were instructor–led, whereas, Group 3 used SL for less structured sessions that were completely student–led.
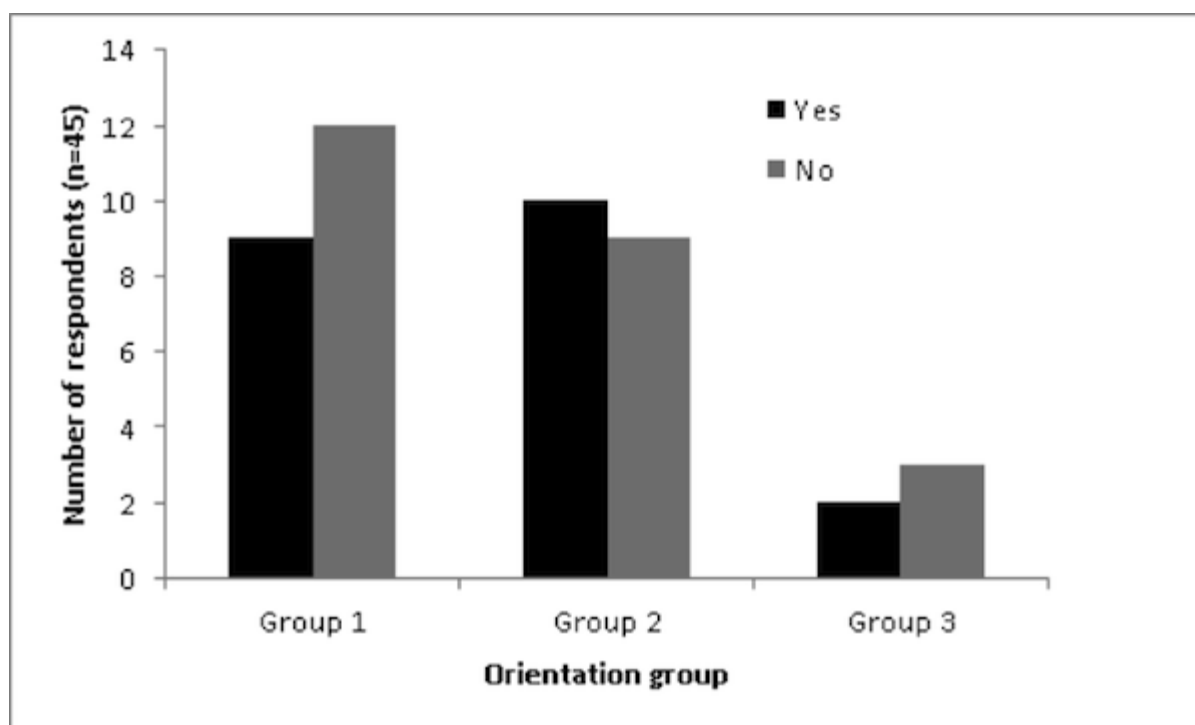
Figure 3: Relationship between timing of orientation to Second Life and whether respondents felt there was a purpose to using Second Life in the program (Yes ▪) or not (No ▪)

Table 3. The Effect Timing of SL Orientation Session on Respondents' Likely Use and Option of it (***n*** = 43).
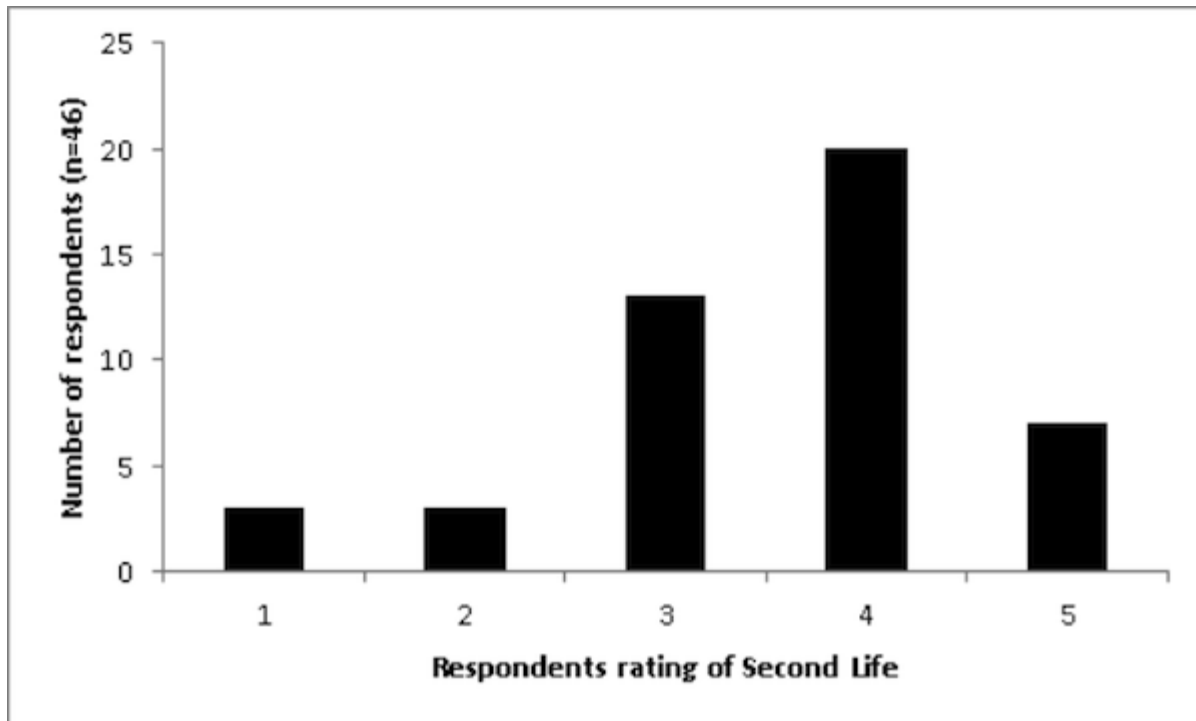
	Rating			
	Definitely	Somewhat	Not at all	Total

Increased likelihood of using SL				
Group 1: Orientation at induction session	6	4	11	21
Group 2: Orientation at start of course	10	4	4	18
Group 3: Orientation during program	0	3	1	4
Total	16	11	16	43
Changed opinion of SL				
Group 1: Orientation at induction session	3	4	14	21
Group 2: Orientation at start of course	8	8	2	18
Group 3: Orientation during program	0	2	2	4
Total	11	14	18	43

Effects of Timing of Orientation Session on Students' Use of SL

In terms of accessing SL, the majority (67%) of respondents had no issues with this; however, for those that did (33%) this appeared to be related to either the specification of their computer, i.e., specification and graphics card (34%), their Internet connection (13%) or a lack of information/support on using SL (33%), other issues with access and use (20%) were primarily reported as a lack of time to get familiar with using SL. When asked to rate SL on accessibility/usability, only six respondents (13%) reported inability to access/use SL or unreliable/inconsistent use (Figure 4). A high number of respondents felt that the orientation session either definitely (18) or somewhat (20) helped resolve any technical difficulties associated with using SL. There was no relationship (χ^2 = 3.96, p = 0.412) between the timing of the SL orientation session and resolving technical difficulties.

Figure 4: Respondents Rating of Second Life in Terms of Accessing and Using it.

1= no successful use/access; 2 = unreliable/inconsistent; 3 = doable with patience/effort; 4 = fairly useable with some quirks; 5 = accessible without difficulty.

Discussion

Effect of Timing of Orientation on Students' Perceptions of SL

The provision of a structured orientation session to SL appears to be integral to students' understanding of the reasons for using SL as an educational tool. While no similar orientation sessions were provided for the other communication media that students used for their studies in the program, it would seem that when using SL students appeared to need a clear understanding of the reasons for using this technology. Indeed, Clark (2011) also reported that it is important that the objectives of the activities in SL are made clear to the students' before their foray into

this virtual world. Therefore, it would appear that the nature of the interface in SL can cause this environment to be perceived as a place (virtual) where you can have a bit of fun as opposed to an online educational space (Cheal, 2009). Consequently, it may be that these students did not see this environment as a place to engage in any serious learning. This was evident from the student comments in this current study relating to SL as being just a game, and, again, this may be because they felt it distracted them from their learning, which raises the question of students' conceptualization of SL as a learning environment.

In terms of the timing of the orientation session, this did not appear to affect students' understanding of the reasons for using SL; however, it did appear to play an important role in determining their opinion and likelihood of them using SL. Those students that went on to use SL closely after their orientation session reported more positively on their perceptions of SL and were more likely to use SL again. This may be attributable to what can be described as "just-in-time" learning (Simkins, Maier, & Rhem, 2009), i.e., training in using SL was delivered to the students close to when they needed it. When you learn something just in time, you are learning something at a time when you need to know it; consequently, you are typically more motivated to learn. In this current study, it would appear that those students that were introduced to SL with a view to using it within a short space of time (a few months) were more motivated to engage with it. Conversely, the introduction to SL with a view to using it at some point in the future could be described as just-in-case learning, i.e., you learn something just in case you may need to use it at a later date. Although students were informed that they would use SL in the future, it may be that this was too general and it was regarded as something they would consider in more detail at a later date.

While not everything can be learned just in time, for example, it is often necessary to undertake just-in-case learning and then engage in some just-in-time learning when required, it would certainly appear that for just-in-case learning students can be less motivated to engage in the learning when there is no definitive timeline for when they will be required to apply this knowledge. Other studies have reported the benefits of an orientation session for students using SL for their studies, with students commenting positively about orientation sessions and also preferring instructor presence during these sessions (Clark, 2011).

Effect of Timing of Orientation on Students' Use of SL

Most students had no issues with accessing SL and those that did had issues related to their computer specification and/or Internet connection. Indeed, technical issues were one of the themes that emerged from the free text comments on what respondents disliked about SL and is one of the barriers to SL reported by Warburton (2009). This also concurs with Lowe and Clark's (2008) study on student perceptions of learning science in a virtual world, where problems with running SL on their own computers was cited as a frustration. Other studies (Rogers, 2009) have reported minimal technical issues surrounding the use of SL; however, the key difference was in the locale of the students. Rogers (2009) used SL for on-campus students where uniform access to desktop computers was available, as opposed to DE students whose own computer specifications vary. Indeed, Cheal (2009) reported that two-thirds of students could not access SL from home or found it slow to run on their home computers due to the hardware requirements. Moreover, Clark (2011) stated that a significant factor in determining students' overall satisfaction with using SL was the ability to run it from their personal computers. The issues regarding SL being slow to run on some home computers was also seen in the feedback from this current study. Technical issues with SL have been broadly reported (Cheal, 2009) due to the software requiring extensive memory, processing, and graphics capability. The above fits with Warburton's description of the technical barriers associated with using SL and further highlights the

importance of technical support to be included in any orientation sessions for students using SL and in particular those using this environment at a distance.

Another frustration emerging from the free text comments in the current study was difficulty with navigation and the time taken to learn how to function in SL, which also concurs with the findings of Lowe and Clark (2008). Cheal (2009) reported that creating an avatar, and learning to navigate and communicate was not a particularly steep learning curve for the students surveyed in that study. In the current study, students were not asked specific questions on this; however, having to learn to navigate in SL was reported by 20% of students to be something they disliked about SL. Indeed, Cobb (2009) reported that students overall satisfaction with using SL was strongly correlated to their perceived ease of use of SL. An orientation session appears to be beneficial to students in terms of resolving accessibility issues associated with using SL and the timing of the session does not appear to affect this. Thus, providing scaffolding around students navigating SL is an important component of any orientation session and indeed ongoing support required. Indeed, Lowe and Clark (2008) reported that a negative factor associated with using SL was using it without assistance. Thus, providing support sessions to resolve any accessibility or usability issues appears to be beneficial to students' use of SL. Indeed, providing written instructions and having an instructor presence in SL when learning to use this virtual world has been reported to be important to students using it (Lowe & Clark, 2008). A summary of the findings of other studies in relation to this study are summarized in Table 4.

Table 4. A Brief Summary of the Findings of Other Studies in Relation to this Current Study

Authors	Study	Brief description of findings that concur with this current study
Cheal (2009)	Perceptions of a course taught in SL	Technical issues around using SL, many students' could not access SL from home Technical issues with SL software requiring extensive memory, processing and graphic capability on personal computers SL seen as a space for fun rather than serious learning
Clark (2011)	A virtual science environment in SL	Student require clear information on the reasons for using SL Instructor presence during orientation session preferred

		by students Student satisfaction withy using SL was linked to their ability to run it on their personal computers
Warburton (2009)	Assessment of the potential of SL and the barriers to using it	Barriers included technical issues around using SL and support learning to use SL very important in students perception it
Lowe and Clark (2008)	Students' perceptions of learning science in a virtual world	Problems with running SL on students' own computers causing frustration Time taken to learn how to function in SL reported as frustrating to students Structured and well supported orientation session important, using SL without assistance reported as a negative experience by students
Cobb (2009)	Student learning and perceptions of a virtual lab in SL	Students' overall satisfaction with using SL linked to perceived ease of use Orientation session essential for resolving accessibility issues

Conclusion

This study explored the timing of when a structured orientation session was given and its subsequent effect of the use and perception of SL by groups of distance education students registered in a part-time distance master's degree program at a large UK University. Results revealed that the use of an orientation session close to subsequent use of SL for learning activities did positively affect students' use and perception of SL. The first key finding is that just-in-time orientation seems to have a positive impact on students' use and perception of SL and would therefore appear to be a fitting conclusion to make from this study. Conversely, timing of the orientation did not affect students' use of SL, in that this did not appear to be needed in terms of resolving any accessibility issues. Thus, it would seem appropriate to conclude that just-in-time

orientation sessions appear critical for students' motivation to use SL but not for accessibility. The ability to draw upon the theories surrounding the use of virtual worlds, particularly in distance education, was a key component of substantiating the findings of this current study. Recommendations from the current findings would be that if educators foresee a pedagogical benefit to using SL then it is important to ensure that students are provided with a timely orientation to SL, and that time is afforded for students to familiarize themselves with the environment to enable them to feel comfortable with, and benefit from, the learning activities undertaken in this virtual world.

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