A Sociotechnical Analysis of Second Life in an Undergraduate English course

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Abstract:

Sociotechnical systems analysis is a term frequently used in computer supported collaborative work that refers to the interaction between people and technology. Technology adoption can be seen as consisting of both a social and technical system. This paper will provide a socio-technical analysis of an implementation of Second Life, an online virtual world, into an undergraduate English course at a large public university. The paper will 1) describe the pilot course, 2) analyze affinities from a socio-technical perspective, and finally 3) give recommendations based on lessons learned from implementing Second Life in an undergraduate English course.

Introduction

Members of organizations sometimes have differing goals in regards to instructional technology adoption. Different users have varying interests and it is especially true when looking at innovative technologies (Akerman, 2000). In a classroom adoption of a technology, students and teachers are not the sole users within a system. Users include instructional designers, technical managers, teaching assistants, technology trainers, and technology support personal. Each user is a node within the social system and each user may have a different interest in the adoption of a particular technology (Duggan, 2003). Instructional designers might have the goal of creating an open constructivist-teaching environment, while a technology manager may be more interested in creating a secure, private, tightly controlled environment in order to reduce risk. Instructional technology implementations consist of both technical and social networks, mutually constituted (Kling, 1991).

This paper will provide a socio-technical analysis of an implementation of Second Life, an online virtual world, into an undergraduate English course at a large public university. The paper will 1) describe the pilot course, 2) analyze three affinities collected through a focus group (Sanchez, 2007) from a socio-technical perspective, and finally 3) give recommendations based on lessons learned from implementing Second Life in an undergraduate English course.

Pilot course

An undergraduate literature course consisting of eighteen students from various majors was selected to participate in a pilot implementation of Second Life, an online virtual world. The intent was to use Second Life as a tool to motivate students and to help them visualize the writing process. The main activity for the course was for students to build their ideal campus. Students participated in Second Life on a private island; only members of the course along with the instructor and two technical support staff could access the island. Because some students were not eighteen years old, all students were restricted from leaving the university's private island. The course met for both the fall and spring semester, although the following data set is taken from work completed during the fall semester of 2006.

Figure 1. Over view of UT Second Life Campus

Lack of instructions

Students received very little instruction during the course of their second life experience. Each student attended one training session where they were taught how to navigate through Second Life, alter the appearance of their avatar, and build simple shapes such as boxes and arches. Students were required to use the Second Life building tools known as "prims" to construct their buildings. They found the "prims", which were shapes such as spheres, boxes, and cylinders, very difficult to use, a student noted, "it's hard to create 3-D objects using such simple shapes. I had an idea for my buildings but I couldn't make them using such simple shapes". When the pilot was initially designed, an assumption was made that students would be able to quickly learn how to build structures in Second Life, and their status as "net generation" or "generation Y" (Weiler, 2005) learners would give them a natural ability to create in a 3D world.

Because of the digital native assumption, the pilot study was designed in such a way as to let students learn by doing. If they encountered a problem it was anticipated that students would be able to collaborate in order to find solutions. Unfortunately, interview, survey, and focus group data indicated students never felt comfortable working in the 3D environment. The interface was very difficult for them to use and they were frustrated by the frequent downtime and weekly software upgrades required by Second Life.

Lack of expert users

The organization supporting Second Life did not have sufficient expertise in the software to provide appropriate instructional and technical consulting. This lack of expertise led to decision-making based on the *possible use* of Second Life rather than decision-making based on data stemming from *actual use* of Second Life. Additionally, support staff did not know how much time it would take or what kind of technical resources, bandwidth, processor speed, graphics cards, etc., would be necessary to complete an assignment.

Lack of organizational expertise effected the implementation of Second Life in several ways. By the fourth week of class, students developed more sophisticated skills in Second Life than the assigned teaching assistant in the course. By the sixth week, students had already spent more time in Second Life than any staff members from the supporting organization. The supporting organization could no longer assist students with their work because the students knew more about the tool than they did. Students reported being frustrated on the Second Life campus because they couldn't find anyone to help them when they needed it. One student said, "We didn't really have any help and we were totally ignorant about the whole thing. We couldn't go anywhere (to find it)".

Figure 2. Picture of University of Texas tower

Lack of social interaction

Second Life was thought of as a technical tool, not as a social tool. Because of this, support staff as well as the instructor spent most their time planning for the technical system within the 3D world. An example of this is how the students were first introduced to their virtual land. Students had access to sixteen virtual acres of land, all of which was empty except for a replica of the university's clock tower. Other than that lone building, students were literally left on a deserted island with no trace of other people, places, or spaces. The island was created in such a way as to provide the most acreage of useable land for student building projects. This decision is an example of how organizations think of instructional technology as a mere technical system, the social component was ignored.

The focus group revealed that students felt isolated on the island and they felt as if they were planted in a void (Sanchez, 2007). One student described how she tried to meet-up with other students on the island on a Sunday afternoon. The students met but they lacked a social space to gather at or an activity to participate in, so they decided to push each other off the top of buildings for fun. A student described the experience, "We would get together on Sundays and we couldn't tell what to do so we would push each other around or off buildings". The students were literally dying for social interaction!

Students were disappointed with their lack of interaction with other Second Life residents, "It would have been more fun in the real SL rather than the UT island, the actual second Life game, there is more stuff to do, its not just a campus, it's a whole world". Students indicated feeling isolated when they entered Second Life. In one word a student described their first impression of Second Life, "Hell", he elaborated further, "Eerie, nothing was there".

Lessons learned

When implementing a virtual world such as Second Life it is important to consider both the social and technical systems. Based on information gathered from surveys, interviews, and focus groups, the following recommendations are provided.

Supporting the technical system

1. Support staff should create documentation to assists users and publish the information both in the virtual space as well as on the web
2. Staff must be expert users in order to assist and provide guidance to students
3. Virtual spaces should have areas for users to be able to reach support staff
4. Support staff should routinely check-in with students to prevent the spread of misinformation

Supporting the social system

a. Interaction between students should be designed for instructional as well as social occasions.
b. Social spaces should be created in the virtual environment to allow students to hold informal gatherings. Encourage the social use of the tool
c. Staff should create a permanent residence in the virtual world so that students know where to find them. Virtual office hours and areas dedicated to demonstrating new products are two possible ways to encourage communication between users.
d. Provide in-world activities for students such as building contest, obstacle courses, or scavenger hunts to help students get acclimated to the virtual environment.

Many lessons were learned from the yearlong pilot study of Second Life. The most important however is that the implementation of 3D worlds in a university classroom must be thought of as a *sociotechnical* system. The technical system includes computers, networks, tutorials, hardware, and policy. The social system includes, creating social spaces, opportunities for in-word assistance, demonstrating the presence of others, continuous feedback loops from various users, and providing social as well as instructional activities.

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