Osmose Research Report Summary

This report describes an experiment conducted at Cégep@distance over a period of two years, and presents the results and recommendations of the research project surrounding it. The central idea of this project was to apply instructional design principles to social software in order to develop interventions that can potentially foster social presence and collaboration among students. The ultimate objective of such interventions was to promote greater persistence in the courses.

The research study had four objectives:

1. To describe the ways students use social software, videoconferencing, and collaborative learning activities.
2. To determine the value attributed by the students to these activities.
3. To explore the effects social software, videoconferencing, and collaborative learning activities may have on social presence, persistence, satisfaction, learning preferences as well as academic achievement.
4. To determine the impact on course design as well as tutoring and administrative systems.

In an attempt to understand the way social presence and collaboration can promote student persistence, we developed an educational social networking environment (ESNE) that integrates, in addition to a Web conferencing system, many features commonly found in social software (profile, communities, blogs, discussion forums, chat room, etc.). The research methodology adopted was based on the principles of design-based research. This methodology combines research, design, and practice within the same process.

Despite the difficulties encountered during the implementation phase, the research team was able to design and set up a learning environment that offers great potential. During the two experiment iterations, a total of 347 students had access to Osmose (the ESNE). Even though the students who participated were fewer than what we initially expected, the group made it possible for us to successfully complete the experiment and gather—through questionnaires, individual and group interviews, trace analysis—relevant data for analysis.

It should first be noted that the students who were enrolled in the collaborative versions of the three courses selected for this experiment and who did avail themselves of the learning environment performed better—in terms of persistence and success rates—than their peers in previous years. However, it is not possible for us to attribute those results with certainty to the sole "Osmose effect" given that these students have benefited from a form of tutoring much closer than usual.

As afforded by the methodological approach chosen for the study, we made significant design changes throughout the project, especially during the transition to the second iteration. Through these changes, system usability was improved, more enrollments were generated, and a number of sources of frustration for the students were eliminated.

However, student participation was lower than expected. In fact, the collaboration could be viewed along a continuum. At one end, there was no collaboration at all. Peer support, resulting from simple, unstructured exchanges, constituted one basic form of collaboration. In such cases, there might not have been any interdependence leading towards a common goal, but there was interaction, nonetheless.

Several factors may explain the relatively small number of students who used the learning environment and especially their reluctance to engage in collaborative work. The data gathered revealed that these students had relatively little experience with social software. Also, there were a number of constraints in relation to the particular pedagogical model of the Cégep@distance (individualized, learner-paced, continuous intake), which the experiment had to grapple with. Given this model, it was perhaps a little too optimistic to think that it may be possible to get individuals to work together— in the traditional sense of close-knit teamwork—in the absence of cohorts. We should also bear in mind that there was no obligation for the students to use the learning environment; the learning activities were not compulsory and there were no rewards in terms of marks for participation. Noteworthy is the fact that the students did not really have any pressing need to use the learning environment since they had direct access to all the necessary material to follow their courses in the self-contained course pack.

Besides, the fact is that we have not been able to attract enough students to attain the critical mass, which is an important condition for the success of social networks. But the factor that played the biggest role in hindering collaboration among peers was undoubtedly students' unswerving desire to study at their own pace and when it suits them.

Notwithstanding the unequal participation among students, the fact remains that some of them have shown interest in the learning environment. The analysis of the "invisible" activity traces left by a number of students highlighted the fact that many of them do come to the learning environment and, without leaving any visible traces, "take advantage" of existing resources, which could have contributed to a sense of social presence. Finally, the contribution made by a social network facilitator who joined the team towards the end of the experiment revealed a great potential for such a role in stimulating interaction and facilitating participation.