



ONLINE LEARNING: SERVING AN ARRAY OF STUDENTS' NEEDS

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Summary

This paper reports preliminary results from a larger research project that analyzes the use of Information and Communication Technologies (ICTs) in online higher education courses in France and Mexico. The francophone perspective on the development of the social uses of ICTs informs the theoretical approach. Within this view, the user's appropriation of technologies and online services is crucial to understanding their academic performance, because ICTs are considered social constructions with different meanings according to their users and contexts of use. This paper reports the results of 25 semi-structured interviews with students in two Mexican universities referred to as UdG Virtual and UABC. The analyses of the interviews were carried out using content analysis. Preliminary results suggest that online learning serves a variety of students' needs, including helping them understand computers and basic software, as was the case of some freshman students at the UABC, to recognizing and validating professional skills in the case of adult students from the UdG Virtual. In general, students' discourses showed different levels of appropriation and different ways of using the available online programs, but for most of the students online learning meant an opportunity to advance academically, which would not otherwise be possible.

Introduction

Higher education, especially in developing countries, needs to increase access for and respond to the needs of populations that do not have the time or economic resources to commute to a university. Online teaching and learning has the potential to reach populations usually excluded, and at the same time, prepare them to work effectively in a world of technology. In order to better prepare our future programs, we wanted to understand the profiles of our online students and recognize their needs.

This paper reports partial results from a larger research project that analyzes the use of Information and Communication Technologies (ICTs) in online higher education courses in France and Mexico. The project is carried out by a bi-national research team and is financed by the French Ministry of Research. The francophone perspective on the development of ICTs social uses informs the theoretical approach.

The study

In order to study the relationship between the students interviewed and the technologies that they used, we based our analyses on the following three theoretical concepts.

Appropriation: The study of the appropriation of technologies analyzes the users' encounters with the technical objects, not in order to follow the processes of diffusion according to Rogers, but in order to substantiate the processes of interaction always present between the technical object and the users, registering their movements of reciprocal transformation. According to the sociological perspective on the social uses of technology, the act (and process) of appropriation on the part of the users consists of making an object their own, both technically and symbolically, evidenced in making its use a part of their practices in everyday life. In other words, appropriation occurs when the technical device gets integrated into the daily routines or habits of the users. As Jouët (2000, p. 433) states: "Appropriation puts into play processes of acquisition of know-how (*savoir-faire*), learning the codes and operating functions of the machine, and the [user] skills and practices and singularity of ways of doing things: [that means] negotiations between the user and the technology".

For us, it is necessary to resort to the concept of appropriation in order to analyze our data because of the articulation of the strategic intentions of the technology producers and the social practices that derive from the real use of technology. Every technical device implies prescribed uses that are recorded within the different layers of the supply: the supply of the technical device, but also within the pedagogical supply of contents and services within the educational modalities. The uses are born, and relate to the ways the users appropriate the different layers of the institutional supply, if they do so. The issue involves the educational platforms with their accompanying strategies and support devices and what the students "make" with the tools and pedagogical resources offered within the modalities of distance education. "The approach of the social appropriation of the technologies [permits] to go beyond the strict study of the relationship from the user to the technical object so as to enlarge the analysis taking into account the role that play the [social] practices within the ways of life" (Millerand, 1999).

Use: The perspective of the social appropriation of technologies analyzes, from the users' point of view, how uses are developed and sustained. We have known for a long time that ICTs integration in users everyday life, "depends less on the intrinsic technical characteristics and sophistication [of the technologies], and more on the meaning of the use, reflected and constructed by the users in regards to the technical device that it is offered to them" (Mallein & Toussaint, 1992, p. 218). The study of uses refers us to the utilization of a specific technology or group of technologies, identifiable and analyzable through the user's specific representations and practices. The potentials offered by distance education are not materialized until the students decide to "put the technology in use" (Flichy, 2004, p. 37), and appropriate it.

The uses materialize in the practices in which they are inserted and which they support, and it is there where they find their "social thickness" (Millerand, 1999). The uses become social when they are stabilized and adopted by a large population. Once it is possible to grasp the social conditions that gave rise to them (Mercier, 1987), we can ascertain the ways in which the uses participate in the construction of the user's social identities.

Mediation: In spite of the ICTs promotional discourses, the true added value of new distance learning programs does not consist of the permanent accessibility or usability of the technologies. The value resides mainly in the mediating components implicit in all pedagogical devices (Larose & Peraya, 2001). These mediations go beyond the uses of the services and technological tools integrated within the platforms, and operate in two ways:

The first refers to the mediation-communication between the actors' involved, and the second to the mediation between the pedagogical contents and the learners, because "the postulation of a pure [learning] content is false. All the media and [technological] tools, the old ones as well as the modern ones, are more than simple receptacles" [Moeglin, 2005, p. 24]. The students' practices with the distance-learning environment must then be integrated into their communicational practices [Paquienséguy, 2006]. Their use of ICTs should not be limited only to the learning context (Pérez Fragoso, 2006), but rather take into consideration the socio-cultural aspects of the context in which they are performed, including their ICT use at home, at work, for leisure... Moeglin (2005, p. 27) explains that the mediational components are indispensable to the pedagogical processes regardless of their modality, either online or face-to-face, because "the communicational component of the act of teaching does not only consist of the transmission of information, and the act of learning is not limited to receiving information".

Methodology: This work forms part of a larger research project that began in 2007 at the University of Grenoble³ in association with the University of Paris⁸, the Virtual University of Guadalajara (UdG Virtual) and the University of Baja California (UABC). The cases of the UdG Virtual and the UABC were studied simultaneously during two years, alongside six universities in France.

The methodology consisted of the collection of sociodemographic and lifestyle information as well as semi-structured interviews with students and teachers. At each Mexican university we interviewed students from two different undergraduate programs: Organizational Administration and Education in the UdG Virtual, and Business Administration and Industrial Engineering in the UABC. Here we report the results of the 25 students interviews conducted during 2008. All interviews were analyzed using content analysis (Weber, 1990; Krippendorff, 2004).

Background: Both institutions are state universities, but the UABC is a bi-modal university, offering online courses within their face-to-face graduate and undergraduate programs, while the UdG Virtual only offers graduate and undergraduate programs. Because it is dedicated to online learning, UdG Virtual has greater support services, including a research center. Also, the courses are developed by educators, experts in the discipline of the course and in computing, and are delivered by other teachers (virtual tutors), while at the UABC the courses are developed and delivered by the same teacher, who usually has already taught the course face-to-face and who has the freedom to use the platform that s/he wishes. The studied are delivered via Moodle and Blackboard at the UABC, and via several platforms at the UdG Virtual.

Another difference is related to the student body. At the UdG Virtual the students are mostly adults who pay for their studies. The average age of the students we interviewed was 32 years. The majority is married, has children, and works full-time, usually in the area in which they want to obtain their degree. Their maturity is also evidenced in the responsibilities they have and the seriousness with which they take their studies. They also distinguish themselves by having returned to their studies after many years, and by having begun to work for a living at a young age (between 15 and 18 years). They tend to live far from the university.

The student body that takes online courses at the UABC is typically young with the age of the students we interviewed being between 18 – 24 years. The majority is unmarried and lives with their parents, who provide them with financial support, including paying for their university fees. Around one third of the students work, most part-time, and their job is not necessarily related to their area of studies. They tend to live near the university.

For both universities, the majority of the students interviewed had good computer equipment, and shared a strong motivation towards their studies.

Results and discussion: When analyzing the students' motivations for taking online courses, the differences began to emerge. For the UABC students from the first semester of the Business Administration program, the course was not offered as a choice; rather, the teacher had told them that it would be delivered online. However, students from another undergraduate programs had taken the course as an elective, because that way, they "could get more credits and advance" in their own program. There were some students that had taken the course face-to-face previously and had failed; their motivation was "to repeat the course without people knowing". Other students took the course to learn about computers and virtual learning environments, and still for others it was an opportunity to study in the comfort of their homes, "laying down", and "when the house becomes quiet". Students from the fourth semester of the Industrial Engineering program had voted by majority for an online course after the teacher had discussed the possibility of offering it in that modality, as well as the academic requirements involved. The students were aware of the benefits and limitations of online learning and mentioned that they decided on this modality because of the time flexibility that online learning offers, saying that "it is a very practical way to work: I can organize my time and do several things simultaneously". On the contrary, for the UdG Virtual students, online learning meant that they could advance professionally while attending to their responsibilities. They had a strong commitment to their studies even when this implied sacrificing their leisure time. They showed great pride in their previous professional experience and they said that they continuously applied what they learned, which in turn, kept their motivation high.

The majority of students manifested that they have appropriated both the technologies involved as well as the educational formats on online courses in an integrated manner. For the UABC students, to whom many of the technologies were not new, by the end of the course they had incorporated them as learning tools. At the UdG Virtual, most of the students had not use the technologies previously, but they overcame their fears and by the end of their first few courses they felt "comfortable," although most of them said that they did not like using other technologies outside their platform.

In general, the ways in which the students integrated their online courses into their lives were different. The UABC students demonstrated learning strategies that allowed them to benefit from their course flexibility, allowing them to catch up when they were behind, or to get ahead on their online courses in order to have more time afterwards for other activities. Since they are full-time students, they organized their online and face-to-face academic activities in a mixed manner. On the other hand, the UdG Virtual students demonstrated learning strategies in which they had fixed hours for carrying out their studies and considered success to be "never falling behind". They programmed their online work outside their work and family hours, and tended to prepare rigid timelines that were strictly followed.

Regarding their uses, since most of the UABC students had previous experience using computers and social software, they drew on this know-how and approached their educational tasks in a straightforward manner, the technology being transparent to them (Berge, 1999). They found the platforms friendly, and most of them looked for information using other digital sources outside the platform. Most of the students said they enjoyed, and are used to, reading online. Most of the students did not print the online material, but prepared digital files and saved them separately, or burned them on CDs.

The UdG Virtual students found the platform intimidating and expressed fear that it would not work properly, but they developed the necessary technical expertise to operate during their courses. However, they said that they tended to stay within the platform, and most of them

said that they found it difficult to read online, especially long documents. All UdG Virtual students said that they kept on hand “a folder for each subject by semester”.

In regards to the mediating aspect of contents and services, both universities platforms and support services seemed to have been a good scaffold to facilitate the appropriation of technologies and contents. Students from UdG Virtual said they felt continuously accompanied by their tutors and support personnel, whereas UABC students appreciated the freedom that allowed them to balance their online tasks with their off-line activities.

Conclusions

These preliminary results suggest that online learning provides a way to break barriers by creating the opportunity to reach more students who otherwise might not be able to access higher education. This is the case of the UdG Virtual students, where all students said that they had decided to complete an online university degree because online programs allowed them to continue fulfilling their work and home obligations. This student population, comprised of many entrepreneurs, needs validation of their professional experience, whether for growing or advancing their own business or getting a better salary in their companies. The direct application of the skills developed in their programs makes them proud and most of them want to continue their education to obtain a masters degree. Also, for some housewives, this means being able to get an education, while taking care of their families, in order to be able to work outside their homes for the first time. Interestingly, for the UABC students, a younger population, online courses provide them with more freedom within the rigidity of the university schedule and curricula. They found an efficient way to complete their academic face-to-face degree programs, whether by taking online courses as electives to get their credits and advance in their programs, or by repeating failed courses without disrupting their current semester academic workload. Most of them said that they would like to take more online courses, which creates a new demand for the university, to everybody's benefit. For both populations, online learning means an opportunity to advance academically, which would not otherwise be possible.

References:

- Berge, Z. (1995). Facilitating computer conferencing: Recommendations from the field. *Educational Technology*, 15(1), 22-30.
- Flichy, P. (1995). *L'innovation technique: Récents développements en sciences sociales / Vers une nouvelle théorie de l'innovation*. Paris, Fr.: Éditions La Découverte.
- Jouët, J. (2000). Retour critique sur la sociologie des usages. *Réseaux*, 100, 487-521.
- Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology*, 2nd. Edition. Thousand Oaks, Ca.: Sage.
- Larose, F. & Peraya, D. (2001). Fondements épistémologiques et spécificité pédagogique du recours aux environnements virtuels en enseignement: Médiation ou médiatisation ? In T. Karsenti et F. Larose (eds) *Les TIC ... au cœur des pédagogies universitaires: Diversité des enjeux pédagogiques et administratifs* (pp. 31-68). Sainte-Foy, Ca. : Presses de l'Université du Québec.
- Mallein, P. & Toussaint, Y. (1992). Diffusion, médiation, usages des TIC. *Culture Technique*, 24, 218-226.

Millerand, F. (1999). Usages des NTIC : les approches de la diffusion, de l'innovation et de l'appropriation (2ème. partie). COMMposite [On-line]. Available : http://commposite.org/99.1/articles/ntic_2.htm

Mœglin, P. (2005). *Outils et médias éducatifs: Une approche communicationnelle*. Grenoble, Fr.: Presses Universitaires de Grenoble.

Paquienéguy, F. (2006). Entre interactivité, dispositif et médiation : que devient l'usage prescrit dans les cours en ligne ? Actes d' *EUTIC 2006*. Colloque International Enjeux et Usages des TIC : reliance sociale et insertion professionnelle. Université Libre de Bruxelles, Bruxelles, 13-15 septembre 2006. Available : http://archivesic.ccsd.cnrs.fr/sic_00104296

Pérez Fragoso, C. (2006). La contribution de l'approche communicationnelle à l'analyse des cours en ligne : le cas de l'Universidad Autónoma de Baja California. Thèse de doctorat, Université Grenoble3.

Weber, R. (1990). *Basic Content Analysis*, 2nd. edition, Newbury Park, Ca.: Sage.