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Facets of at Paris Descartes University: Which role for faculty members? The case of the PRISMES project

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Abstract

In higher education, e learning covers a wide spectrum of situations, with three common requirements: the delivery of pertinent on-line resources, adequate human support to learners and the involvement of faculty members. This text presents a case study about an "experimental" project led at Université Paris Descartes (PRISMES) that has aimed at conjugating those three aspects. Overall, the main lesson learnt confirms that, in a context of high expectations from authorities regarding a quick return on investment, things are much more complex and that results crucially depend not only upon the involvement of a few innovators but, more fundamentally, on the mobilization of a network of actors.

Keywords: pedagogical innovation, case study, higher education, e-learning

Context: e-learning and pedagogical resources in France

In France, as in many industrialized countries, *e-learning* is popular in higher education, under different forms and under different names, *francophonie oblige:* currently, two of the most popular appellation are "e-formation" and "*pédagogie numérique*" (digital pedagogy). And universities tend to implement schemes for spreading its use, because e-learning seems a possible candidate for helping them to adapt to a quickly changing world.

As everywhere else, those schemes cover a wide spectrum, from completely online courses to enhancements brought to classical courses in order to allow students to access complementary multimedia resources. They have been implemented for quite a long time now and have been subject to many researches, looking in particular at their impact. In 2006, for example, Abrami & al, in a meta-analysis considering the case of Canada and all forms of e-learning, came to the overall conclusion that a limited effect was observable, albeit with great variations; it remarked that "the biggest unanswered question for policy makers and practitioners concerns whether e- learning is worth the cost" (p. 33). Recently Means et al. (2009), performing a meta analysis of "online Learning Studies" (mostly in higher education), came to the conclusion that blended solutions appear to have better learning outcomes than courses either completely online or purely traditional.

These questions of impacts on learning outcomes, important in northern America, have so far not received the same attention in France, where the attention of researchers has rather focused on the analysis of changes occurring in the system.

E-learning in French higher education in a nutshell

High levels of expectations can be perceived from authorities that have understood the importance of these possible new modalities of teaching and several national policies have been launched in higher education, starting in the 1990, with an emphasis on models of

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open education, called in French *Formation Ouverte et à Distance* – FOAD (Blandin, 1999; Bertrand, 2003; Combès & Fichez, 2003).

Let us remark that this push, because it has used vague terms (like *digital education*) has not distinguished among several very different trends, e-learning covering a huge spectrum between two attractors: a case where courses are completely online and another where activities are limited to the mere publication on a web site of useful resources. Intermediary solutions (such as using forums and communication instruments to promote collaborative learning have also been tested (Baron, Bruillard & Sidir, 2006), and in particular in teacher education (Baron & Bruillard, 2006). The costs and the effects are completely different. Research performed a few years ago on the way academics use on-line resources has shown that if a promotional discourse exists towards using them, there is a series of constraints that hinder the development of practices: technical, organizational, human and financial (Barats, 2005). Platforms evolve very quickly; academics generally use ICT for their back office and for presenting courses, but they prefer technologies that are compatible with their practice and are often reluctant to change traditional forms of teaching. As Alain Chaptal (2005) pointed out, e-learning has become something familiar; at the same time, no revolution emerged, and things are evolving slowly, perhaps towards a greater flexibility.

Regarding the causes of this situation, an important fact has to be recalled: in higher education, academics have a great autonomy for choosing the precise contents they are going to teach and the methods they want to use. French traditions are not much in favor of educational technology, the theories of instructional design are not popular except perhaps in technological fields and vocational itineraries. Assessment still often follows traditional ways. High-stakes tests are not much used, except in certain specific itineraries with large numbers of students (like medicine). In brief Larry Cuban's opinion (1986, 1993) that teachers tend to favor what reinforce their authority in the classroom is well founded.

More precisely, what is at stake for faculty members is to confirm their responsibility upon the contents and the methods for transmitting them. How is it possible to develop forms of e learning that do not threaten the identity of lecturers and offer instructors more efficient tools for transmitting knowledge?

This text addresses these issues by analyzing an innovation program launched at Paris Descartes University. First, it gives contextual information, then it presents the project and analyzes its results. It is important to stress the fact that we analyze an operation of which we are actors. Therefore we do not claim any generality for the results we obtained. However, it seems to us that these results may be shared and discussed with others.

e-learning at Paris Descartes

Paris Descartes is a rather large university according to French standards (35.000 students), created after the 1968 reform. It has nine faculties, covering medicine, odontology, law, pharmacy, biomedical sciences, mathematics and informatics, social and human sciences, psychology, technology, and physical activities, with a dominance of fields related to medical sciences. From an informatics point of view, it has an ancient experience, having hosted since the 1970 important computing centers. Of course, there has been for a long time an integrated information system, called in French *Environnement numérique de travail* -ENT, which has known periodical adaptations and changes in technical solutions. From a governance point of view, a central direction of informatics and information systems (DISI) is in charge of all that is related to informatics. This direction devotes most of its resources for maintaining a secure global information system and offering state of the art services. Within the DISI exists a department specialized in educational matters. Some faculties (and

in particular mathematics-informatics) also have a capacity of initiative for education-related ICT solutions.

The university has chosen to use Moodle as its main platform, but other systems also exist. For example, a specific tool, PLENADIS (http://plenadis.math-info.univ-paris5.fr), has been designed and written in JAVA by Yannick Parchemal. This system, which aims at offering users synchronic communications, has been implemented in the department of mathematics and informatics. It has been used for several years on a local basis, affording instructors means of reaching on-line groups of students. But PLENADIS is a desktop application and cannot be easily connected to Moodle. It is not much used beyond the faculty where it has been designed.

On the other hand, observation has shown that a small but significant proportion of instructors use ad-hoc systems in their teaching practice rather than the carefully crafted environment the university offers them. The reason why is probably that those instructors feel sufficiently proficient for elaborating their own solutions, adapted to what they believe their needs are (and at the cost of much extra workload).

In this context, we tried to implement a scheme allowing faculty members to design and use high quality resources in a coherent way.

The PRISMES project: rationale and stakes

The project we are presenting here was launched in order to develop the use of online resources for pedagogical purposes. It aims at taking into account a situation that is relatively new: students are more and more connected; a majority of them are now rather comfortable with limited usage of the principal ICT tools. A growing number of them, in particular at undergraduate level, are obliged to work and can only study part-time. Simultaneously, the Bologna reform has had a profound impact on the pedagogical organization: courses are now offered by semesters (and no longer annually), which may pose problems of coherence from the student's point of view. The ENT offers a wide spectrum of on lines resources, but without much indexation allowing students to easily find what they really needed.

The middle-term objective of the project has been to provide high quality online courses on a single web site with a wide range of forms including text, slide, video and quizzes. In order to get as much information as we could, we thought interesting to study a situation concerning both the Faculty of mathematics and informatics (here below MI) and the Faculty of human and social science (here below SHS). Those two faculties have in effect sharp contrasts: the rapport to magisterial instruction is in effect not the same in the two fields, nor is the use of resources. However, it is self-evident that these disciplines share many problems and have a common interest in inventing solutions that are both efficient and compatible with the prerogatives of academics: a responsibility on contents and a mastery of methods.

From an organizational point of view, the choice has been made of a collaborative endeavor, aiming at confronting different views of similar problems. Within the project, several clusters have been distinguished: collaborative course design, schemes for putting courses on line coherently, recording and webcasting courses, tutoring.

First results of the project implementation

The project, submitted in July 2009 for only one year, was accepted in September 2009 and initiated in October. Classically, it did not take off easily and the first period was devoted to

convincing colleagues. The different strands did not progress at the same pace and different problems emerged.

Collaborative course design

The production of courses in a collaborative way has been a priority in MI. Due to the commitment of a colleague who succeeded in interesting other instructors, an action-research group started thinking on ways of mutualizing efforts and easily producing resources adapted to a series of courses. Technically, the SCENARI system (http://scenari-platform.org/projects/scenari/fr/pres/co) was chosen and several prototypes were produced. This group also launched a reflection on the interest of periodic tests aiming at rendering students self conscious of their situation in a given course. The amount of work for them has been rather heavy: holding a weekly seminar during 6 months has allowed the group to define a global structure for an undergraduate mathematics course and to consensually design a series of chapters for this course.

Overall, the results are so far limited in terms of the quantity produced. However, a real intellectual investment has been realized. What now at stake is the dissemination of ideas among colleagues.

How to put resources online coherently?

In the previous paragraph, we presented a long-term process for improving the quality of our courses and for elaborating them in a collaborative way. In fact, students are confronted with a huge variety of pedagogical resources: duplicated lecture notes, information from instructors-maintained website, copies of other students' lecture notes, e-mails exchanged with the instructors… Our goal was to design a procedure allowing to offer all the available pedagogic resources onto a single web site without imposing too much upon faculty members. This exercise had a constraint: we had to use the "Moodle" platform recommended by the university.

The first step has been to incite faculty members to contribute and to facilitate their task. In effect, there is an interest toward using modern platforms but time is short and the agenda is always tight. We imperatively had not to demand them too much extra back-office tasks. The key idea we followed was to appoint ICT assistants for helping them and to implement a procedure creating for each course a Moodle course in a standardized way.

A process in several steps was chosen. First, we sent to every faculty member an e-mail describing the project and its rationale. Then, the ICT assistants sent personalized e-mail to colleagues, giving them the address of their page, suggesting them to feed it with resources and offering to help.

Three types of answers were obtained. Concerning the faculty of mathematics and informatics, among 41 colleagues, 22 had answered the e-mail in March 2010. Only 4 refused that their courses would be put on-line. Eighteen agreed and among them 12 asked the assistants to initialize the platform. In SHS, the situation was somewhat different: a number of instructors began to put resources online. But, except in education sciences, where exists a collective involvement in a distance education scheme (see below) and in the 2 first years of social sciences (due to the involvement of a very motivated colleague), implementation of courses has rather been made on an individual basis.

Recording and webcasting lessons

Filming lessons in order to be able to restitute them after the course is a classic of educational technology. It is much used in some subjects, like medicine and much less in others (e.g. the humanities). A key idea is that webcasting may actually help students who could not attend the course. But recording a course is not straightforward. No support existed in our teaching departments until September 2008 and there was a series of constraints: no classroom was equipped with video equipments; only volunteer faculty members would participate, the lessons had to be filmed without disturbing the teacher. Finally, the videos should be easily available to students, which means that the action could only start when a media center (*mediathèque,* http://mediatheque.parisdescartes.fr) could ensure that it would be possible to publish a series of production.

A series of mobile video packs was bought, alongside with specific software allowing to record both the image of the teacher and the screen of her PC and to mix them. ICT assistants were trained. Teachers willing to be recorded just send an e-mail for a specific time slot. The assistant has to arrive in advance, in order to install the necessary material. After the course, teachers have to sign a webcasting authorization and to indicate the title and the key words of the lesson. ICT assistants put the video online in the following 48 hours.

It was not very easy to recruit voluntary teachers and preliminary meetings were organized, in order to explain the interest of the procedure, to convince that almost no extra-work would be needed and to clearly stress out the fact that it was possible, at any moment to withdraw the film from the *mediathèque*.

As always with such programs, a series of issues have had to be dealt with. The most visible ones are of course the technical ones. Filming a lesson requires a camera and two computer linked together. ICTE assistants had been trained and everything was supposed to move on smoothly. However, in about 10% of the lessons, unexpected problems arose which prevented the lesson to be filmed. Pedagogical problems are of course a more serious matter, because they often reveal inadequacies between the designers' ideas and the reality.

The situation proved to be very different between mathematics/informatics and social sciences: in the first case, the rate of adhesion was higher: 11 instructors only agreed on the idea of being filmed and 138 webcasts were produced. In social sciences, there was a clear reluctance of many academics and a small number of innovators agreed to test the procedure. Indeed, the situation is different and teachers seldom work with a fully-fledged computer presentation that they comment. An idea emerged with force: it was not thought fit to record the full course and the preference went to the recording short thematic sequences (either from the course itself or from other sources), that would illustrate specific points.

Tutoring

The idea of offering distance courses to students who work and cannot attend full time instruction had been circulating for a few years in the Faculty of education. A very classical problem, however, was to interest the administration and to implement something that would be sufficiently compatible with the classical organization. One of the main problems faced by universities in such a case is student attrition: it is very difficult to cope with the different dimensions of distance education (Jacquinot, 1993) and particularly for those having a full time job. A pilot operation had been attempted the previous year, with a limited number of students (15) and we extended it for 60 students, the limit compatible

with the Faculty workforce. We inspired ourselves from the ideas of a large campus in education, based at the universities of Rouen & Lyon: FORSE (Béziat & Wallet, 2007) (Thouroude, 2008). The main idea has been, beyond observing a rigorous design, to invest sufficiently in tutoring and also, in meta-tutoring: a tutor-instructor was appointed, who had to supervise the tutors' tasks and to solve all the simple problems. Overall, the operation worked well: there have been a few drop-outs only: out of 61 initial students, 2 signaled they had to abandon, and 41 sit for the semester exams, out of which 60% passed the exams.

One of the appreciable results of the operation has also been to create a shared expertise among instructors. Among the main issues encountered, some are techno-pedagogical: how to better use multimedia resources within the frame of the Moodle platform is still an open question, as is the creation of short videos illustrating specific points or the production of targeted podcasts.

From an administrative point of view, things have run rather smoothly. It is true that this operation, which mobilizes a dozen of academics, attracts new students without threatening the existing courses. One of the main questions is how to extend it to master studies. Here, the problem is more complex. How, for example, to direct a master thesis on-line is still an open question.

Discussion and perspectives

The preceding lines have described and analyzed the way a problem (developing solutions respecting the traditional rights of instructors on contents and methods) has been tackled in a French university. A key idea of the project has been to try to provide faculty members with sufficient support, both technical and human. Determining the outcome of the project is certainly premature; something has begun to move very slightly and will probably continue to move on: educational matters are never fast moving, except in periods of revolutions and catastrophes.

However what seem to be a few strong points can be noticed. Concerning the provision of resources, the first one is the fact that faculty members have chosen to play safe and mainly put on-line simple resources (like .pdf., odt or .ppt files) that would relieve them of other tasks. Only a few of them have tried to move forward and to think about a real instructional design.

This seems to us to be quite normal: the appropriation of existing tool takes much time and supposes a minimal knowledge of what is possible and desirable. But this knowledge is not yet well shared and has to be acquired progressively. And once new knowledge is acquired, new possibilities are understood, new goal emerge. We are clearly in an incremental process.

The implementation of online courses has proved to be successful. The reason why comes from the existence of a motivated group of persons in the faculty of education and from the great attention paid to issues linked with accompanying students. But the future of online courses integrating themselves in the existing framework is still unclear. So far, the academics having invested in it can be considered as innovators.

Issues of mutualizing may be considered as serious. Mutualizing within a community is certainly something one cannot blame. Yet, in practice mutualizing courses is rather thorny. Probably, it can work only in a context of mutual trust. So far the colleagues interested in experimenting new modalities of instruction, share a common culture, nourished by regular meetings and trust one another. Extending the experience may prove problematic if instructors do not see an advantage in it (i.e. if it does not exist a mutual, open-source, base

of learning objects). One of the current ideas we have is that a way of moving forward may be by designing a system of periodical tests (without high stakes) obliging students to periodically reflect on their progress and allowing tutors to offer them an adapted help.

We are working on it (submitting a new project…), but this is another story.

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