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CASE STUDIES TO ENHANCE QUALITY IN WEB ACTIVITIES

Marianne POUMAY, Chantal DUPONT & François GEORGES,
University of Liège - LabSET, Belgium.

Introduction

In Belgium, distributed learning is still in its pilot phase but expands increasingly from day to day. The market's demand is quickly growing. Several universities develop pilot courses and are overloaded with questions from colleagues and from industries asking for demos and following up. The University of Liège has launched the LabSET (Support Laboratory for Telematic Learning), helping faculty members develop their own courses on a distributed platform (WebCT). This Lab also serves local SMEs and public organisations, with a strong stress on the quality of the teaching/learning interactions allowed by the courses developed. Active learning and rich communication scenarios are promoted, contrasting with the mass of distance courses available on the web.
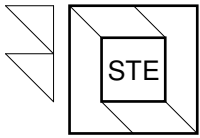
A pedagogical context

The LabSET, as a Development Centre, is rooted in the STE-ULG, research and teaching center. The LabSET has adopted WebCT as integrated distributed learning environment for the preparation and delivery of courses and activities via the Internet. This centre is using WebCT with students from the second to the fifth year of the gradate degree in Educational Sciences. Courses involve groups of 10 to 30 students. As a department of Educational Technology, STE puts the student's activity to the fore and encourages the Web course development only if assorted with an improvement of quality in the teaching and learning process.

Illustration : "Edumetrics and school assessment"

An example of this quality enhancement is constituted by the on-line activities proposed in the course of "Edumetrics and School Assessment" (ESA). Graduate students use WebCT to build case studies and answer their peer's cases. They play alternatively student's and tutor's roles, learning how to manipulate the platform and how to be an efficient on-line tutor. The methodology is a combination of case study analysis, peer assessment (tutor and student role for each student) and distance training.

The home page of the course is available but pass word protected. Any interested visitor can ask for a visitor's password by contacting the authors of this paper. The key tools of the home page are, in this case and due to the applied methodology, the *Forum* and the *Quizz* sections.

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Boulevard du Rectorat, 5 Bât. B32 - Parking 16 - Sart Tilman - B 4000 Liège
Tél. : +32-4-366 20 72 - Fax : +32-4-366 29 53 - E_mail : M.Poumay@ulg.ac.be

Université de Liège
Faculté de Psychologie
et des Sciences de l'Education
Service de Technologie de l'Education
Dir. : Professeur D. LECLERCQ

STE

Evaluation

The evaluation of the students' achievements was threefold. For each student, we evaluated :

- the quality of the case study produced (realism of the case, coherence between text, title and graphical illustration, originality, relevance of the 11 questions on the case, clearness, precision of the language, adequacy of style) ;

- the quality of the interactions the student displayed in the discussion forums, both as a tutor and as a student (respect of the initial instructions, availability as a tutor, constructiveness of the interactions, correctness of the affirmation, openness to reconsidering once initial position) ;

- the mastery of the content (first chapter of the course), through the whole process and through an oral exam.

Those three notes for each student give a good indication of the separate performance for each set of criteria. The final note was a combination of the students' results for the three sets of criteria.

Additionally (but not taken into account in the final note), an open questionnaire was proposed to collect their thoughts and feelings about the distance training situation, the case study analysis, and this course in particular with its quite demanding methodology.

Findings

Our findings can be described in terms of a pedagogical model, the "Competencies Architecture" (LECLERCQ, 1998). The model, represented as a pyramid, distinguishes four levels of competencies :

Dynamic competencies : involvement, interests, willing, hate, motivation ;
Strategic competencies : self knowledge, especially in problem solving ability ;
Demultiplicative competencies : general technical skills ;
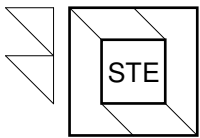Specific competencies : knowledge and abilities, content related.

Our objective was that not only the first (specific) level should be stressed but each of the four levels has to be developed for itself, since distance learning is a powerful tool that, if well designed, can serve the development of the four levels of competencies.

1. Specific competencies :

Mastery of the content (Chapter 1) by the students is better in '99 than in '98. "Time on task" is higher, which partly explains the gain, but the mastery is also deeper, students being able to criticise the model itself and to have a real dialogue with the professor and researchers on how to improve the handbook. Their mastery is so deep that they become real partners in upgrading our own initial documents… and that's new ! This quality in the content mastery is not only due to the time on task but also to the methodology used, forcing the students, in their tutor's role, to advise others, to adopt definite positions and make decisions, to go back to theory, to relate it to practical cases and to confront the model to reality.

2. Demultiplicative competencies

The students have learned how to use an integrated distance learning platform, with its forums, chats, e-mails, glossary, calendar, personal presentation pages, hot links, formative quizzes,

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formative tests and other specific tools. Those demultiplicative competencies, largely transferable to other contents, were not present in the former course and constitute an important capital for our students in education.

3. Strategic competencies

Distance learning is an experience to LIVE more than to talk about. Having participated to an on-line forum, having entered his/her own password to access a reserved space, feeling part of a group that never physically meets are experiences that our students were living for the first time and probably will never forget. They now have an image of themselves as students being able to cope with those technical tricky situations, able also to communicate with people without even seeing each other. Interviews reveal that their self image has been positively modified, with an impact on their ability to really learn in such an environment. They say that in the future, they will be more confident and more efficient in distance training.
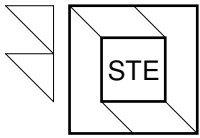
4. Dynamic competencies

The pedagogical setting (case studies, role changes) as well as the distance training environment were seen by the students as very motivating. The consciousness of participating to an innovative experiment and the fact that we were aware of their progresses and difficulties were also helping their dynamic competencies to take place. They knew they could influence the process, the course in itself and even its content, they were real partners of their own learning, dynamised by such an empowerment. Those high level competencies are the impetus of learning, allowing the three other types of competencies to develop. The dynamic competencies should always be a priority.

5. Students tracking

In order to highlight possible problems and to improve the content of the course for the next academic year, we also analysed the number of time the students had hit each of the HTML page of the content. This helps us know what students find useful and what they ignore. We noticed some parts of the content were hit a lot more than others, for much longer times than others. It means at least that we should pay particular attention to those pages to improve them, illustrate what we can, allow the students to print them properly and make everything we can to help them quickly catch the most important elements on those pages.

We also noted a difference (corr. 0,5 explaining 25% of the variance) in the final scores between the students having highly interacted in the discussion forums and those having not. The number of interactions in the forums (how many articles each student has read, how many original postings he/she has made and how many follow ups he/she has made to others postings), in the case of our specific pedagogical setting of case study analysis and peer assessment, seems to be a good indicator of the involvement and contribution to the course. It is closely related to the final achievements (global note to the course). Next year, we will then make the students aware of this link, track the interactions earlier in the year and invite the "less participating" students to share more with their peers when they do not understand a point.
Another consequence for next year : we will sort the students' listing by sign-on dates and get in touch by personal E-mail with the students who have not logged on the two first weeks of the course. If a student has not been on for two weeks, a personal contact will let us detect if he/she is having trouble with the course,… but will anyway show the students that we care enough to take the time to ask.

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Conclusions

This mehodology has demonstrated its efficiency, whereas we can't perfectly isolate the role of each factor (distance learning platform – case study methodology – peer assessment – consciousness of being part of an experimental design) in the global result.

Specific but also demultiplicative, strategic and dynamic competencies were developed, more easily than in a traditional class setting. We know that those "transversal competencies" are highly appreciated by the future employers of our students, the other specific professional skills being often taught "on site".

The quality gain seems also to be partly due to the better definition of the activities to perform, of the objectives, of the evaluation criteria and of the deadlines. Distance learning forces the tutors to be precise, coherent, available, correct and equal , since every single piece of information that communicated on-line can be printed as a proof and can be used for a discussion or for arguing. This quality control by the students is sometimes challenging for the tutor but helps define, clarify and improve the training process.

Finally, the use of an integrated platform really helps monitor the course, analyse the students' results and improve the course offering from year to year, not only as a consequence from direct students comments but also in response to the way students are interacting with the course. It plays an important role in the quality gain we underline.

Reference

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