From technical assistance to teaching for online courses

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Abstract: - Online courses propose to students various digital resources which realization is time consuming and may be costly (videos of experts, interactive experiments, and quizzes from a bank of questions…). Time spent supervising students trough out discussion forums, active tutoring of productions and projects overtakes traditional classrooms. The resources might soon become obsolete and a continuous improvement of resources is necessary for the course to remain attractive for students. Moreover, resolving technical problems such as connection, access to resources, misunderstanding in their use requires assistance for the teacher. The condition of the success of online courses goes through using appropriate digital tools and scenarios that are not intuitive for the teacher. Therefore, a specific job of Technical Assistant to Teach Online Courses (TATOC) is necessary. The understanding of the teacher's objective by the TATOC induces the development of skills in the subject taught. Therefore, the technical assistant can become a teaching assistant (TA) and belong to the educational team. We report here the above progressive transformation of TATOC to TA in a learning module dedicated to innovation.

Key-Words: - Collaborative Learning, Collaborative Education; E-Learning and E-Pedagogy; Bridging the gap of Education and the Requirements of the Production; Institutional Issues on Technology-based Education and Training

1 Introduction

The development of online courses calls for skills of teachers that require specific professional development [1-5]. We propose to classify them in three categories: technical, pedagogical and legal (administrative).

First, the teacher must have at least a basic knowledge of the technology infrastructure (networks, bandwidth, the course platform…), but also of the available formats of supports (video, sound) and on the software to play with. Second, the teacher must have pedagogical skills, especially related to digital learning, particularly on the assessment methods, their choice and their use for specific purposes. Designing online courses opens the way of the transformation of the pedagogical method: elaboration of learning scenarios, systematic use of formative assessments, feedback and surveys analysis, active role in the student motivation to discuss on forums and e-moderation [5-6]... Third, the teacher should know the administrative context: University policy, the institutional communication policy, copyrights and permission to use and reproduce pedagogical resources… These three dimensions of the online course may be considered as not relevant for what is really taught (in face-to-face) and may brake on change in the teacher work.

This is the reason why, many universities have hired technical assistants to teach of online courses (TATOC) whose task is to take over the technical arrangements, and to assist teachers for elaborating the new curriculum and baseline scenario describing all teaching periods. Actually, the job of the TATOC is complementary to that of the teacher: their aim is to reduce the time and energy dedicated to tasks that are not a matter of the subject taught.

However, the role of TATOC can turn into a real teaching one, in terms of didactical assistance and students tutors, if some conditions are met. From an experiment in a online course dedicated to innovation, we analyze the conditions of this transformation and its added value.

2 Problem Formulation

Teaching online courses today is a challenging educational practice because it redefines the role of

the traditional teacher figure and fosters the emergence of a technical assistance. In the following, we summarize the basic role and tasks of the TATOC, before describing the evolution of the role from TATOC to teaching assistant.

The TATOC plays the role of technical assistance for the use of the Learning Management System (LMS) chosen by the University [8-9]. Indeed, the use and the production of digital resources involves specific skills: handling digital learning platform and specific softwares to produce and convert videos and audio slideshows. Moreover, the TATOC generally tackles the management of the students login, their correct access to resources and quizzes, the technical management of the discussion forums, of the peer review of the knowledge produced by students for flipped classrooms, and the implementation of feedbacks on the course quality. The students enrolled in online courses often face to technical problems of login, access to resources and misunderstanding of written instructions. Not all these tasks are encountered in a face-to-face course (or are not noticed). They complicate the teacher's work and pollute the pure activity of transferring knowledge. In face-to-face courses, these tasks can be compared to opening the classroom door, turning on the light, turning on the video projector and connecting the computer on which the course material is recorded. Consequently, they are therefore considered unproductive in the act of teaching. As a result, universities that want to promote the development of online courses, have hired technical assistants to teaching of online courses (ATOC).

However, in reality the TATOC's role is not limited to pure technical assistance. The development of digital education has been accompanied by the emergence of tools that are changing pedagogical methods. Not having immediate feedback from students as in face-to-face courses requires the use of specific methods to ensure in-depth learning. The design of student's activities must address the pedagogical purpose including the various types of assessments (online positioning and diagnostic examinations). Moreover, even the contents of the curriculum may change, because of the pedagogical strategies and of the digital constraints. Therefore, the TATOC and the teacher must thus make a part of the path towards each other, so that an area of common skills, of common language, can be built.

The border between the teacher and the TATOC activities is therefore blurred, and the TATOC becomes an active member of the educational team. The TATOC can take on the role of beta tester of the online course and therefore develops skills with regard to the matter that is taught. It was just a short step to be able to tutor students and therefore to endorse the role of teacher assistant. However, according to our experience, we propose some necessary conditions for this transformation and some advantages of this approach.

3 Problem Solution

In the following, we enumerate the requirements for the change of the TATOC's role. We also analyze the improvement and limits of this evolution in human resources management. These points can be brought to the tutor requirements [10-13].

Five conditions must be fulfilled to change the role of the TATOC:

1. The teacher must be open-minded and may consider transferring his expertise and knowledge to a tutor.
2. The TATOC must be able to consider having a teaching activity, be motivated and open to learning to teach and not only know and pass on good teaching practices without practicing them.
3. Both TATOC and teacher need to be ready to spend time together to build the online course, to analyze the student's feedback and to use them to evolve the training.
4. The academic level of the TATOC should be sufficient to appropriate the necessary knowledge and know-how.
5. The university must be able to authorize and recognize the interest of the work done.

Of course, the balance between technical tasks and supplementary teaching activities should be carefully investigated and delimited. Moreover, this transformation of the job cannot be generalized and imposed to TATOC. The advantages of this evolution of tasks are of two types.
First, the curriculum and the teaching methods can be improved and more adapted to the students. Actually, the interrelationship and the exchanges of most varied viewpoints contribute to the improvement of the online courses.
Second, the TATOC becomes an actor in the teaching process. His/her position is mostly intermediate between student and teachers. The TATOC can therefore help to reveal epistemological frontiers that were previously

hidden. The practice of teaching improves the value attached to the TATOC's work and a rise in expertise. After few sessions of teaching, TATOC is proactive in improving the curriculum and is able to propose changes in the contents of the online course. He/her thus supplements the teaching team and his/her proposals become more credible for the teacher [13].

From the teacher point of view, the TATOC supplements the active human resources and enriches the feedback on the course while decreasing the time needed for teaching. This point could counterbalance the classical break of online courses development: the excessive time spent that is necessary, especially in the case of large audience [14].

4 Conclusion

The contribution of technical assistants to teaching for online courses (ATOC) or e-learning facilitators can be expanded to the whole teaching process. They enjoy the opportunity to play the part of tutor or teaching assistants, in terms of recognition, raise of interest and skill improvement. They understand better the position of the teacher and teaching problems by practicing On the other hand, the teacher welcomes a supplementary resource, with a different point of view that can even help him/her to improve his/her knowledge of the taught academic subject.

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