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From f2f to blended courses: An Italian university case study in a school of education

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Abstract

Although virtualization of the Italian university system was initiated almost ten years ago, third-level e-learning courses are still not widely available. To date only e-learning universities offer online courses, while traditional universities continue to deliver predominantly face-to-face courses. One of the critical issues is the fact that lecturing staff are more experienced at teaching face-to-face courses and lack confidence in creating e-learning didactic models. This paper discusses how face-to-face courses may be converted to blended courses. The key features of the conversion have been identified on the basis of courses implemented at an Italian School of Education. The analysis was conducted using a systematic observation method which focused on two aspects: the didactic features of the online courses and the technological tools used. As a result, the following course attributes were observed and discussed:

- type of learning promoted by the didactic method implemented;
- type of activity assigned to students;
- use of assignment deadlines;
- role of face-to-face lectures/tutorials in the blended model;
- tasks effectively carried out by lecturing staff and tutors;
- workload of lecturing and tutoring staff;
- approach to managing online communication;
- promotion of open-minded learning processes;
- delivery of advanced multimedia learning objects versus standard files.

The study identified four types of didactic model which may be implemented by teaching staff with basic technological skills:

- delivery of learning objects and individual activities;
- individual activities and peer-collaboration;
- group activities;
- knowledge management and self-regulation.

Keywords: didactic, e-learning, methodology, university, blended

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1. Introduction

Although virtualization of the Italian university system was initiated almost ten years ago, third-level e-learning courses are still not widely available in Italy. To date only e-learning universities offer online programs, while the majority of universities remain tied to the traditional face-to-face model. Generally, in non-elearning Italian universities, academic staff have the authority to freely decide whether to use technology in teaching. Some wholeheartedly adopt ICT tools, while others use ICT despite lacking confidence in creating and maintaining online courses. As suggested by numerous authors (Calvani & Rotta, 2000; Trentin, 2001), a teacher who wishes to adopt e-learning requires specific skills that include not only technical capabilities but also the ability to design effective teaching methods that meet the students' needs.

In this paper, we set out to analyze the critical problem of converting a traditional face-to-face course to a blended format at a non-elearning university. The case study involved a thorough examination of 13 courses offered by the School of Education at Milan-Bicocca University during the 2009/2010 academic year. These courses were delivered in both traditional (for attending students) and blended (for non-attending students) formats. The online courses were co-designed and monitored by researchers at LISP (research laboratory for experimentation with technology applied to education). The analysis was part of Fortech, the e-learning pilot project of the Educational Science Faculty, which has been running since 2005.

In line with University regulations, the online courses were required to meet four key conditions:

1. Blended learning: face-to-face lectures/tutorials must account for 10 to 40 percent of total teaching hours. In addition, it is highly recommended that the first session be conducted face-to-face.
2. Lecturing staff can deliver course content corresponding to a maximum of 50 percent of total CFU credits (the Italian equivalent of ECTS credits) allocated to the course, the balance must be delivered by tutors.
3. Face-to-face lectures/tutorials should be scheduled so as to cater for the needs of non-attending students (e.g., late Friday afternoon and Saturday morning).
4. The workload of e-learning students must be equivalent to that of attending students.

2. Methodology

The analysis was conducted using a systematic observation method which focused on two key aspects of online courses: didactics and technology. The former aspect regards the features of the teaching methods implemented, such as techniques and tactics used to solve specific problems affecting the conversion of traditional face-to-face courses to online formats. The latter aspect focuses on how lecturing staff use technological tools to develop their teaching techniques. In line with the aims of the study, we devised an ad hoc method based on both computer-observation of online courses documented (Ferrari & Garavaglia, 2006) and analysis of qualitative information obtained from interviews with the trainers (academic staff members responsible for providing e-learning training to lecturing/tutoring staff and supporting online course design processes). We chose to interview the trainers (rather than the lecturers/tutors themselves) because in our experience, given their background and role, trainers are optimally placed to provide comprehensive, expert and objective feedback in terms of explaining the choices implemented by teaching staff and evaluating the outcomes. For each of the didactic or technological course features observed, we identified one or more variables; the data-gathering process then enabled us to deduce a number of categories for each variable. The features analyzed are reported in Table 1 and described in detail in the following paragraphs.

Table 1. Course Features Analyzed

Feature analyzed	Didactic and/or technological aspect
Type of learning promoted by the didactic method implemented	Didactic aspect
Type of activity assigned to students	Didactic aspect
Use of assignment deadlines	Didactic aspect
Role of face-to-face lectures in the blended model	Didactic aspect
Tasks effectively carried out by lecturing staff versus tutors	Didactic and Technological aspect
Workload of lecturing and tutoring staff	Didactic and Technological aspect
On line communication management	Didactic aspect
Promotion of open-minded learning processes	Didactic Aspect
Delivery of advanced multimedia learning objects versus standard files	Technological Aspect

2.1. *Type of learning promoted by the didactic method implemented*

The particular mode of learning promoted is a crucial feature of an e-learning course and can drive the entire didactic model implemented by lecturing staff and tutors. In this case study, we focused on the following types of learning (Garavaglia, 2010; Uzunboylu, Ekizoglu & Ekizoglu, 2009):

1. Individual study: the course is based on the delivery of contents that students are required to learn individually.
2. Individual e-tivity: at least part of the course is based on individual active learning activities.
3. Group e-tivity: the students are divided into small groups and the learning promoted is based on collaboration and cooperation between group members.
4. Opinion sharing: this is another type of group activity in which learning is considered to be the outcome of collaborative sharing of opinions and ideas.
5. Meta-reflection: the didactic model is based on the promotion of meta-reflective activities.

2.2. *Type of activity assigned to students*

According to the model proposed by Salmon (2004), in online courses students should be required to carry out some form of learning activity. This choice stems from the awareness that the inclusion of e-tivity in online teaching facilitates:

- increased opportunities for active learning and teaching effectiveness;
- reduced levels of drop-out, more widespread amongst non-attending students;
- enhanced human relationships between students and academic staff (e-tivities bring together non-attending students and teaching staff, enabling them to establish positive communication useful to the learning process).

This feature is defined as a combination of two variables. The first variable concerns the social dimension of the prescribed activities and includes four categories:

1. Individual: activities assigned are individual, so each student is required to carry out their work individually and the end-products will be as many as the students in the online class. This was the type of activity most frequently implemented in our case study, featuring in 8 of the 13 courses observed.
2. Group: the activities are to be carried out in small groups; each group has to produce a joint outcome and responsibility for the work is divided between all the group members (Johnson & Johnson, 1989);
3. Both individual and group: the course includes both individual and group assignments.
4. Absence of student activities: No activities are assigned to the students.

The second variable regards the nature of the activity itself, and comprises four categories:

1. Test: an online activity that is automatically evaluated by the LMS. The student is immediately aware of the result. Such tests are usually used for self-evaluation purposes.
2. Essay: a written paper (guided or free) on one or more topics chosen by the lecturer/tutor. This type of activity was used in 6 out of the 13 courses in our study.
3. Work-related project: guided assignments requiring students to reflectively design a practical application of course theory relevant to their own particular area of work. Students find it very natural to engage in this kind of activity because it is often close to their professional experience.
4. Online discussions: lecturing/tutoring staff launch a topic and promote discussion amongst the students who are invited to post their contributions on a forum.

2.3. *Use of assignment deadlines*

This feature regards the timing and characteristics of assignment deadlines, and is defined by one variable with 3 categories:

1. Free: the deadline is linked to the examination date chosen by the student. Generally, students must submit their course-work from 5 to 15 days before the date of the examination, in order to allow the lecturer to evaluate it in advance of the final examination. This arrangement meets non-attending students' requirement for flexible time-management frameworks.

2. Two or more deadlines with extension facility: the lecturer schedules tasks that must be carried out by the prescribed deadlines, but students can request an extension period for one or more of the due dates. This formula was offered by 4 out of 13 lecturers.

3. Two or more fixed deadlines: the lecturer schedules tasks that must be carried out strictly to deadline. If students fail to meet deadlines, they will not be allowed to complete the course.

2.4. Role of face-to-face lectures in the blended model

This feature relates to whether or not lecturing staff consider face-to-face lectures to be a fundamental part of the course (Draves, 2002). It comprises a single variable with 3 categories:

1. Optional f2f: face-to-face lectures are optional and students can choose freely whether or not to attend. This formula was chosen by 5 out of 13 lecturers.

2. Compulsory f2f for a percentage of course hours: it is compulsory to attend a variable percentage (usually 75% - 80%) of the hours scheduled for face-to-face lectures. Seven out of 13 lecturers opted for this system;

3. Compulsory f2f attendance: students are required to attend all scheduled face-to-face lectures.

2.5. Tasks effectively carried out by lecturing staff versus tutors

The tasks performed by lecturing and tutoring staff respectively for online courses are often very similar. Generally lecturers and tutors divide out the various tasks between them in such a way as to maximise efficiency. The data analysis yielded the following categories of task:

- construction of learning objects: both lecturing and tutoring staff may be involved in the creation of a range of learning objects;
- face-to-face lectures/tutorials;
- forum Moderation;
- evaluation of assignments;
- videoconferencing: Generally video conferences take place in the evening to accommodate the needs of non-attending students.

2.6. Workload of lecturing and tutoring staff

Workload is defined as the amount of time and resources required to carry out each task. This attribute is critical for lecturing staff with poor digital literacy; in fact, many lecturers choose activities that require the use of simple tools in order to avoid more complex technology, delegating the tasks requiring higher-level digital skills to the tutors. "Workload" was defined as the combination of the following variables:

- the kind of tasks effectively carried out by lecturing and tutoring staff (as described in the previous paragraph);
- the number of tasks performed by task type.

Generally, lecturers tended to own "traditional tasks" which did not require complex digital skills such as face-to-face lectures (10 out of 13), and/or could be constructed around simple learning objects (using basic software like Office), while tutors engaged in online communication with the students, providing study support and correcting assignments. In order to ensure a good level of online support, almost half of the lecturers preferred to allocate more than 50% of the working hours to the tutor.

2.7. Online communication management

Online communication management concerns the main communication strategy adopted by moderators (whether lecturers or tutors) and is defined as the combined outcome of the following three variables.

The first variable regards forum communication management and has three categories:

1. Waiting strategy: this category describes situations where moderators decide not to actively invite and encourage students to write posts, but wait for the students' posts. This strategy was chosen in 6 courses out of 13, and led to forums with few messages.

2. Debate mode: in this case, the moderator regularly proposes debates on issues related to the study topics. Eleven out of 13 courses adopted this strategy.

3. Activities: this category includes situations where moderators set up activities that students can carry out using forums and other online tools.

The second variable regards the type of forum offered to students, and comprises the following categories:

1. Consultation: forum used as an office hours online consultation service.
2. Study topic: forum dedicated to course topics.
3. Activities: collection of threads related to prescribed student activities and assignments.
4. Socialization: forum dedicated to socialization amongst students and initial access to course (Salmon, 2003).
5. Free time: off-topic forum.

Generally, the academic staff chose to adopt the first three types of forum.

The third variable is related to use of the announcements function of the LMS, and it comprises two categories:

1. Announcements concerning the scheduling of activities: these notices guide the students through the course, providing timely reminders of the activities to be carried out.
2. Announcements providing detailed descriptions of activities: such notices clarify the step-by-step requirements of individual activities.

2.8. Promotion of open-minded learning processes

This feature is made up of two dichotomous variables. The first regards whether courses require students to share and debate their opinions with other students or not (6 out of 13 courses observed promoted an opinion-sharing model).

The second variable concerns whether or not the course promotes meta-reflection processes helping to embrace new ideas (which may differ from those initially put forward) emerging from collaborative exchanges (Albanese, Doudin, Martin, 1995).

2.9. Delivery of advanced multimedia learning objects versus standard files

The final attribute observed is the use of technical solutions to deliver digital contents. Again this feature is defined by a dichotomous variable whereby learning objects are either built with complex multimedia contents or with common standard files produced with Office Suite Software (e.g. PowerPoint, Word, or PDF files). Only four courses adopted complex learning objects, in line with a higher level of digital skills on the part of lecturing staff.

3. The analytical outcome: four didactic models for converting from courses from face-to-face to blended formats

The combined analysis of all the observed features led us to identify four didactic models used to convert face-to-face courses to blended formats. These models were deduced by analysing the distribution of all the categories identified. Key importance was attributed to the feature “type of learning promoted by the didactic method implemented”, viewed as underpinning the choice of many other features of the didactic model.

The didactic models emerging from the analysis are the following:

1. Delivery of learning objects and individual activities: the course is primarily based on the delivery of learning objects and individual e-tivities that students are required to carry out on their own.
2. Individual activities and peer-collaboration: the lecturer assigns individual activities to students, but also provides the opportunity to share ongoing work and end-products with others, so that issues and solutions may be discussed with peers.
3. Group activities: in this model, the lecturer requires the students to carry out activities in small workgroups, and focuses on communication and interaction among students and between lecturers, tutors and students.
4. Knowledge management and self-regulation (Zimmermann et al., 1982): this model is related to group activity and meta-reflective learning. The objective of self-regulation is to control the cognitive, emotional and motivational aspects of the learning process. Lecturers and tutors post messages on the forum proposing debates as

tasks with defined deadlines, and tutors often focus their moderation on the promotion of open-minded discussions. All activities are continuously monitored by lectures and tutors; therefore this is a time-consuming model.

4. Conclusions

All the models implemented yield courses with active teaching methodologies (albeit of different kinds), and this is largely thanks to the role of the tutor in managing activities, exercises or assignments for the students. In traditional face-to-face courses there is no tutor, and lectures are typically teacher-centred as is the norm in Italian universities.

It is not possible to compare the blended didactic models observed with the models used in face-to-face courses for three further reasons:

- a) in some cases, the e-learning course is not taught by the same lecturer as the traditional course;
- b) lecturers tend to use the technology that they know best, and this influences their choice of didactic model;
- c) lecturing staff trainers report that lecturers often avoid promoting online workgroups due to the difficulty encountered by non-attending students in collaborating online (according to Ardizzone and Rivoltella [2003], a low proportion of face-to-face lectures/tutorials impacts negatively on the efficiency of online work organization).

The most frequently used model is “individual activities and peer-collaboration”. It was implemented in 7 courses out of 13, and typically displays the following characteristics:

- the type of activity mainly assigned is the essay;
- attendance at face-to-face lectures/tutorials is compulsory for a certain percentage of hours;
- the lecturer predominantly takes charge of face-to-face lectures and the production of simple learning objects;
- the tutor primarily owns tasks relating to forum moderation and evaluation of assignments;

In line with these features, the online setting created for the courses in the LMS is generally implemented with tools for the delivery of learning objects, consultation and activity forums as well as a repository for student course work.

This model is considered by both tutoring and lecturing staff to facilitate optimum balance in terms of workload. The “knowledge management and self-regulation” model is found to generate an excessive workload, while the feasibility of the other models depends on the number and complexity of the activities proposed.

The four models described are the outcome of five years of experimentation and, thanks to the continuous refinement undergone to date, may be considered appropriate solutions for the conversion of face-to-face university courses to e-learning formats in the context of an Italian school of education.

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