Abstract

The Bologna Process (1999) should be considered a turning point for higher education. From then on, skill-based and student-centred learning activities are expected to be implemented by all the members of EHEA (European Higher Education Area) institutions. It’s not just about fulfilling European obligations, but planning effective learning experiences which look toward the ultimate goal of university teaching: young people’s integration into the labour market. This key element, together with other higher education specific features – to consider students as adult learners and the spread of educational technologies – stress the need for a development of teaching practices.

Flipped learning could be considered a pedagogical approach which meets these needs. Fairly widespread in Italian K-12 education, flipped classroom experiences seem to be rare in higher education contexts. This paper focuses on the explanation of a flipped classroom experience in the “Methodology of pedagogical research” course, Bachelor's degree in Organizational Training, University of Verona (Italy). Professionalization has to be considered one of the essential characteristic of this Bachelor's degree, therefore academics are asked to plan courses aimed at gaining not only knowledge, but especially skills. This specific course has a double goal: firstly, providing students with the knowledge necessary to understand the places of training and education and how they can play a transformative role, when introducing opportunities for research and reflection, aimed at professional development. Secondly, to acquire skills concerning those methods and instruments that should be considered essential for experts in educational processes who intend to do research and inquire-based learning activities.

The full paper presents the development process of the flipped classroom activities. Particular emphasis is given to instructional strategies, methodologies and resources that have been planned and developed for in-class and home activities.

Keywords: Flipped learning, flipped classroom, undergraduate course, skill based learning, student-centred learning.

1 INTRODUCTION

How can universities bring students closer to the labour market?
What kind of strategies could be considered useful, to support this aim?
How much does a university feel responsible for this approach?
How could each lecturer contribute to this process? [1]

1.1 The ongoing renovation of higher education

It is now almost consolidated that the worlds of work and training move around the term competence, that means "the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy" [2]. Several European policy papers, guidelines and implementing provisions [3] stress the need for students to acquire professionals, transversal and entrepreneurial skills in their courses of study. From the Bologna process (1999) onwards, through the establishment and the development of the European Higher Education Area, even universities are strongly encouraged to formulate and evaluate the training programs’ outcomes in terms of skills. This transition recognizes the importance of ensuring the acquisition of spendable learning in the perspective of individual training and social development. The concept of competence recalls the transformative power of scientific knowledge...
once it has become a teaching and learning object. Therefore, for universities taking on profession-oriented higher education should mean addressing students' potential active and autonomous response to the world's solicitude, as well as responding to the request for an effective academic background which includes the ability to see and analyze problems, critical thinking, autonomy and entrepreneurial attitude as the ability to turn thought into action [4]. Lastly, reflecting on the expendability of students' learning outcomes could be a useful element to empower the universities' third mission, that means to transform knowledge into useful knowledge both for productive purposes and for social welfare [5].

On the other side, students need to find a point of contact between their own interests and the social and institutional function of their higher studies [6]. It may be possible to view them as co-producers of knowledge through student-centred learning processes [7]. It is now a fact that experiential, active and reflective learning approaches may allow us to consider students as adult, active subjects. Therefore, it seems even more necessary to move from the logic of teaching to learning, from a "content" model to a "process" model, not just to acquire specific knowledge and skills, but also procedures and resources that students need to acquire independently, not from information and competences [8]. And so, every lesson must be thought in terms of action, as a laboratory where students are placed in the position of acting subjects [9]. First the theory, then practices; first studying, then working; first learning, then applying: these are nearly obsolete timelines.

In Italian universities, the traditional and frontal teaching approach is still enduring, but teaching innovations based on student-centred learning processes are increasingly gaining ground.

1.2 Flipped learning approach in higher education

Flipped learning could be considered an innovative pedagogical and teaching approach that can help answer the questions that have been formulated so far. Flipped learning is defined as "a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" [10]. The advent of flipped learning is not a sudden revolution, as stressed by Cecchinato [11]. It is a long-running process that finds deep educational roots in constructivist learning theories [12] [13], and in active and student-centred learning [14]. These educational perspectives now find theoretical re-legitimation, consensus and innovative practical applications through flipped learning and through a transformed cultural ecosystem [11] [15].

Since its formalization, attributed to Jonathan Bergmann and Aaron Sams [16] [17], the flipped classroom approach has been used for years in various disciplines of higher education. Several publications and reviews testify [18] [19] and stress emerging evidences in terms of efficacy [20] [21]. "Within higher education, the terminology used for the practice still varies between blended learning, inverted classroom, and flipped learning; but the call for course redesign to model the principles of the flipped classroom continues to be made throughout the literature and through professional organization" [22].

Considering Bloom's revised taxonomy [23], the inversion of learning environment envisaged by flipped learning lead students to approach the lower levels of cognitive work (gaining knowledge and comprehension) outside of class and focusing on the higher-level learning goals (application, analysis, synthesis, and/or evaluation) during in-class activities with the support of lecturers and tutors (figure nr. 1). Lecturers and students work together to co-construct professional and transversal competences through shared, individual and collaborative processes. Authentic tasks and evaluation rubrics are useful tools that move in this way. Therefore, lifelong or life-wide learning competences are gained from the experience of undertaking firsthand activities and tasks: this is learning from doing. Active and experiential learning encompasses the wider application of workplace learning to include work-based learning, cooperative learning, work integrated learning, internships and work placements, but also observation of practice and simulated experience [24]. All these strategies, usually included in the flipped learning approach, challenge the status quo of conventional university model and move the focus on students’ transferable skills, personal development planning and preparation for portfolio careers [25].
2 CONTEXT OF THE EXPERIENCE

Between October 2016 and January 2017, a flipped learning project was conducted at the Bachelor's degree in Organizational Training – University of Verona, within the “Methodology of pedagogical research” course. This was a 6-credit course, representing 150 hours of study and including 36-hours class-based. 95 second-year students attended regularly scheduled classes.

In line with the didactic regulations of the Bachelor's degree course 2016-2017 [26], which stresses the necessity of developing both students' knowledge and skills, this specific course had a double goal. Firstly, to provide students with the knowledge necessary to understand the places of training and education and how they can play a transformative role, when introducing opportunities for research and reflection, aimed at professional development. Secondly, to allow students to acquire skills concerning those methods and instruments that should be considered essential for experts in educational processes who intend to do research and inquire-based learning activities. To achieve these goals, a double learning path had been designed. The first included reflection and inquire-based activities tackled through the cooperative learning approach; it aimed at facilitating the acquisition of methods and tools a trainer should own in his/her professional toolbox. The second path included an individual methodological laboratory in order to acquire specific methodological research skills through data gathering and analysis activities within the ecological framework [27].

3 THE COURSE DESIGN

On the webpage containing the presentation of the course, the teaching approach had been introduced through a video, which clearly explained the flipped learning model and all the information a student usually needs to understand if it is worth attending classes and trying this didactic experimentation or alternatively studying independently. The introductory video had also been shown during the first class, in order to make a deal with the attending students. The agreement provided for 75% attendance compulsory, qualitative and quantitative participation, the use of a platform for sharing activities and the creation of a personal portfolio for the final exam. During the first class, students were divided into groups of four components each.

The class met once a week – usually on Thursday – for 3 academic hours and for a total of 12 classes. This scheduling was intentionally required to apply the flipped learning approach. The steps I took for each class session included:

- determining the learning outcomes for the session, preparing PowerPoint presentations and recording videos for the session’s topics, and putting them online;
- planning authentic tasks and preparing materials for in-class activities;
- checking of home activities (video viewing and placement of students’ activities on the platform).

All of the lecture materials – videos, authentic tasks and additional aids – were organized into weekly topic modules. Some strategic tools had been adopted to make work more efficient: an e-learning platform for videos sharing and the students’ authentic tasks collection; a syllabus that specifically describes topics, bibliographic materials and tasks for each module and a reflective diary for students to record thoughts and ideas linked at each activity. All these tools were crucial in maintaining the students’ pace of learning through modules within the whole course.
According to the flipped classroom model, students gained initial exposure to the course concepts by studying on their own before class with the support of written materials and videos created by the lecturer; class time was then devoted to explore students’ questions as well as working on specific authentic tasks within their groups.

3.1 Home activities

With regards to home activities, students were required to watch videos, take notes, and consult other related materials when suggested by the lecturer. The purposes of these videos were firstly to introduce specific chapters of texts, focusing on those elements that will then be deepened during in-class activities, through authentic tasks. Secondly, to support students in the overall study of texts for the final exam. Twenty-nine video lectures were elaborated with PowerPoint and recorded with Screencastify to respond to the students’ request to have written materials printed on which they could take notes at home and at school. Videos – almost all between five and ten minutes long in duration – were specifically designed to be concise, as a sort of conceptual maps that students should look into through the support of knowledge acquired during the whole texts reading and the authentic tasks elaboration. A pivotal issue in the flipped classroom approach is the assessment of the pre-class activities. The decision not to give any tests to verify video watching and its comprehension was raised after the agreement made with students during the first class where we discussed that adult students cannot be forced to perform a task. So, in line with the principle of responsibility, I assumed that students coming into class should know the provided materials. However, thanks to the Moodle’s tools, I could monitor and communicate to them the percentage of students who had seen each video, to let them understand the importance of respecting both the agreement and their colleagues. This strategy proved to be effective as the number of students who completed their home activities increased after these communications.

3.2 In-class activities

Looking into in-class activities, each class had been divided in three sections: 15 minutes for communication and discussions about on-line videos, 1 hour for reflection and inquire-based activities, and 1 hour for the individual methodological laboratory. Both learning paths were experienced by students through authentic tasks whose aims were to focus on the contents of reference materials, re-elaborate this information individually and in groups and to acquire specific skills in relation to the stated objectives. Students division in fixed groups of four components was intentionally introduced to better manage cooperative learning activities. Group works also allowed a better large classroom management and times for debates which would not have been possible due to the large number of students and the class setting. Each authentic task was introduced by a document containing specific instructions, goals, roles, deadlines and checklist for self-evaluation. Deadlines were important because groups that did not finish their activities could complete their worksheet for homework. The idea of self-evaluation check-lists was raised in line with the principle of responsibility, from the difficulty of not being able to check all the documents elaborated by all the groups. Lastly, there is a clarification due: it is necessary to specify that online pre-recorded videos did not refer to the methodological laboratory because traditional frontal lecture, followed by in-class practical applications, had been preferred to explain complex methodological concepts.

4 EVALUATION

Regarding the assessment process, a continuous self-assessment throughout the course had been developed with the support of check-lists. Students may use these tools to guide their decisions and complete their authentic tasks. The summative assessment had been implemented through an individual oral examination where students were asked to discuss their personal portfolio which included the final report of the individual methodological laboratory, the authentic tasks of the group they belonged to, and their reflective diary.

Student perceptions of the flipped classroom had been explored firstly in the middle of the course through an informal online survey, whose aim was to understand students’ perception of the pilot experience they were living (in-class activities, home activities and general perception of the teaching approach), strengths and weaknesses of flipped learning and any elements that need to be remodelled, according to students’ opinions. Students answered the survey via Google Forms and participation was voluntary. The questionnaire included 12 Likert scale opinion questions and 3 open
questions. 42 students completed the survey. This investigation had really helped to formulate a reflection in action.

Students’ perception of flipped classroom has been investigated at the end of the course too, through a quantitative and qualitative approach. The study included a survey elaborated with the support of the international literature. The questionnaire was given at the end of the final exam to all students and it focused on students’ perception of in-class activities (14 Likert scale opinion questions), home activities (12 Likert scale opinion questions), the general learning experience (8 Likert scale opinion questions), and skills they may have acquired (7 Likert scale opinion questions). Two open questions aimed to explore students’ opinions on strengths and weaknesses of the flipped learning approach are asked at the end of the questionnaire. Participation was voluntary, 82 students completed the survey. A focus group with 6 students has been conducted after a month; its aim was to explore deeply specific elements that had arisen from the survey.

The analysis of quantitative and qualitative data is still ongoing.

5 DISCUSSION

As introduced by the Flipped Learning Network [10], the flipped classroom approach may lead to flipped learning if students’ and lecturer’s experiences are strongly characterized by the presence of the flipped learning four pillars. So, in conclusion, it is appropriate to analyze the experience through the lens of each pillar and the associated indicators.

Flexible Environment. Flexible environment had been realized firstly through the adoption of different teaching methods and tools in relation to different learning objectives and learning styles. This element strongly led to a personalised learning in terms of study management: that meant they could choose how and when to cope with the self-training moment watching videos and how to manage group activities respecting the criteria of each assignment. I did not provide students with different ways to learn, but I suggested different tools they could use to realize authentic tasks and demonstrate mastery. All these elements were meant to make students feel more responsible for their study path, their own success and their personal development. Secondly, flexible environment meant being able to remodel the course in itinere. This was possible taking in account students’ feedback, adopting a democratic posture and a reflection-in-action process.

Learning culture. In this pilot experiencing learning culture meant firstly meaningful and authentic tasks, active learning and learning from experience, where reflection played a central role. It’s important the students may acquire this awareness not only studying theories, but especially experiencing these processes firsthand: cooperative learning approaches were a key element within the active process of knowledge construction through the comparison with peers. The e-learning platform Moodle had been adopted and used to this aim: sharing information and increase knowledge analyzing other students’ compositions and reflecting on those contents. As Early [32] stressed: “as a result of flipping, students definitely completed activities without me [the lecturer] being central”.

Intentional content. One of the most relevant moments of this experience was choosing and curating relevant contents that could meet the course’s objectives, in terms of both knowledge and competences. As lecturer, I suggested methods and tools students could use in their professional future, so that they could build their own professional toolbox since their course of study.

An important element of this process was to formulate not only overall goals reachable at the end of the course, but specific objectives for each class.

Professional educators. One of the main reasons that led me to choose flipped learning was the possibility to better handle a very large class. As facilitator, during classes my job was not to convey knowledge to a large passive audience, but staying among students, observing them, answering real-time questions and giving them feedbacks. All these actions were always accompanied by a reflective process which helped me to think about what I was doing and make changes if necessary. Furthermore, after each class, I took some notes in a reflective diary. This, together with a constant dialogue with colleagues, helped me to self-evaluate my experience, taking responsibility for being aware of, and transforming my practice.
REFERENCES


[3] Some European documents, to name but a few:


3117


