

Raising lifelong learning skills using learning technology at University for Foreigners of Perugia

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ABSTRACT

Soft skills are a set of socio-emotional abilities considered as fundamental for personal development, for academic and work achievement and long-term success, and higher education is today called to support the graduates' employability and to provide effective tools to face the contemporary society fostering both technical and soft skills of its students. The University of Foreigners of Perugia has addressed this topic with the adoption of a new lifelong learning skills' development and assessment model based on a social-constructivist view of teaching and learning oriented towards elements of intercultural education, enclosing the training of soft skills into hard skills courses and devising a soft skills' assessment process in order to provide a reliable and suitable procedure both for the community of learners and for assessors. The model has been embedded in few experimental courses selected from different Master's degrees and our teachers was involved in a training pathway using innovative learning technologies such as LMS (Learning Management Systems) and other digital tools in order to foster students' skills. For the pathways has been used approaches as blended learning, collaborative learning, flipped classroom, spaced learning, learning by doing. In this paper we present and analyze the data collected during our courses. The investigation show that the use of learning technology increased students' active participation.

Keywords

Keywords are your own designated keywords separated by semicolons (“;”).

1. INTRODUCTION

The present study focuses on the results of a project supported by the funds from the Italian “Ministero dell'Istruzione, dell'Università e della Ricerca” under the project “Progetto di Ateneo PRO3 - Programmazione triennale 2016- 2018 - OBIETTIVO B: Modernizzazione ambienti di studio e di ricerca, innovazione delle metodologie didattiche - AZIONE C: Interventi per il rafforzamento delle competenze trasversali acquisite dagli studenti” of the University for Foreigners of Perugia, aimed to update study and research environments through the design and implementation of experimental training courses focused on innovative teaching methods using the most advanced information technology innovative tools to enhance students' lifelong learning skills.

Research has shown [1] [2] [3] concerns about the gap between graduates' skills and challenges that labour market poses in an increasingly changing society and graduates often lack the ability to apply soft skills in facing new situations [4]. In the European Reference Framework [5] skills are defined as a combination of knowledge, competences and attitudes appropriate to the context. Key competences are in essence those which all

individuals need for personal development, active citizenship, social inclusion and employment. Considering the renewed Recommendation on Key Competences for Lifelong Learning, the European Qualification Frameworks [6] and our specific context, six soft skills has been identified as most relevant for our students: problem solving, adaptability, team working, networking, multitasking and communication skills.

With a sequential logic, the planning of the project was defined with the purpose of answering the following objectives: foster teachers' modernization role through targeted pathways in Virtual Learning Environments (VLEs) and design, develop, assess, recognise, and analyse students' soft skills' enhancement through few experimental Master's degrees concerning the following areas: Sociolinguistics and languages of new media, International politics, Narrative techniques and models of storytelling, Italian Linguistics, to be given in form of Small Private Online Courses [7], and two other courses provided in form of workshops concerning Geographical information systems and Analysis of linguistic data, training both technical and soft skills through experiential activities using approaches such as blended learning, collaborative learning, flipped classroom, spaced learning, learning by doing to foster our students' abilities. Aligned to these objectives, we used a combination of Information & Communication Technologies (ICT) and e-learning educational approaches, choosing appropriate learning facilities and planning adequate learning paths: the choice of digital tools has fallen on collaborative instruments as the Moodle LMS [8] [9] to publish videos, notices, questions, links to work resources, using it as a repository for work files and using related tools to produce texts, collect data, etc. In addition to video lessons and teaching material provided by teachers, courses included interactive activities such as discussion forums, self-verification tests, surveys and interactive glossaries.

A soft skills' testing and assessment process has been planned [10]: multiple answers tests implemented by means of the quiz activity provided by the LMS has been devised and administered through the same Moodle software platform used for the Masters' courses. An area of the platform, by which the students, at the end of the training, can carry out the verification test of soft skills acquired, has been activated. The object of measurement was mainly linked to the skills that all the training processes had developed: situations presented required students to mobilize skills and knowledge in different contexts, combining logical-cognitive, socio-affective and communicative dimensions [11], stimulating reasoning, transfer and critical thinking. For each of the six soft skills identified, four scenarios were presented replacing a situation set in a work or academic context, accompanied by different answer options categorized as follows: more effective, reasonable, less effective, inappropriate. Students were called upon to identify the most effective answer strategy with the aim of verifying their

attitudes related to the skills identified. Once the student has been assessed, she was awarded with a digital certificate that follows the open badge standard. Therefore, such a certificate can be used in a variety of software platforms worldwide e.g. social media, blogs or e-portfolio systems.

2. DESIGN OF THE PROJECT

In detail, the experimental training paths were divided in two types:

- A. A path specifically oriented to non-attending students, aimed to providing four curriculum courses of the four master's degrees using a new e-learning platform, integrating digital tools and new didactic methodologies;
- B. A path dedicated to students of the four master's degrees in general, aimed to delivering two curriculum courses in an integrated classroom / network mode, in which traditional tools and methodologies are integrated in a modular way with innovative methods, also based on informal approaches, social and interdisciplinary learning, such as the co-presence in the classroom of teachers of different areas.

A first step has seen our teachers' training: we started identifying the teacher's competence level and defining their needs and the pathway was carried out providing a face-to-face training course for all degree courses' teachers, individual training in presence for the four Master Degree teachers and online training course open to all degree courses' teachers. For each of the training methods, we analyze below the attendance data collected.

According to the signature presence, almost 70% of teachers was present and active in face-to-face course, that we consider as a good response in terms of attendance and participation in all the activities provided:

The individual training was carried out for the four teachers of the four Master degree areas:

- Comunicazione pubblicitaria, storytelling e cultura d'immagine (ComPSI)
- Italiano per l'insegnamento a stranieri (ItaS)
- Relazioni internazionali e cooperazione allo sviluppo (RICS)
- Traduzione e interpretariato per l'internazionalizzazione dell'impresa (TrIn).

For each teacher, we provide below the reference period and the total number of hours of individual training:

- Teacher A: 10 hours in the period from June 7th 2018 to July 4th 2018;
- Teacher B: 10 hours in the period from August 1st 2018 to September 4th 2018;
- Teacher C: 10 hours in the period from July 3rd 2018 to August 6th 2018;
- Teacher D: 10 hours in the period from June 13th 2018 to June 26th 2018.

The online training course was carried out on a dedicated area of our eLearning platform and during the learning path, all the activities carried out online by teachers was monitored. In particular, the data related to the contents consulted by each

individual teacher and their online presence time were recorded and a summary of the data is presented below.

- Number of teachers involved in the online course: 40
- Average time of online presence: 1h 05m
- Average number of pages consulted: 7.60

3. ANALYSIS OF THE STUDENTS' INTERACTION

In the subsections below we report the following data:

- I_1 indicator measures the increase in student participation in the pilot courses compared to other courses of the same degree course that did not participate to the project analyzed here.
- I_2 indicator measures the increase of non attending students' participation in the pilot courses.
- Students' interaction data in the eLearning platform.

3.1 Measure on students' participation in the pilot courses

For each of the pilot courses, we report the data related to the number of students who attended the course on the eLearning platform and the average time spent online. Furthermore, for comparison purposes, the aggregated data, according to a weighted average, of other courses comparable with the pilot courses are reported. The data has been collected by online attendance records provided by our Platform. It is important to notice that the attendance records come from the new Platform called LOL (Learning OnLine) for the pilot courses in path A and from the old platform (Webclass) for all other courses.

We summarize the data in the I_1 indicator calculated as the average of the values

$$\frac{T - T_{others}}{T_{others}} \times 100$$

which indicate the percentage increase in the average online time of the pilot teaching (T) compared to the other courses (T_{others}).

Thus, the value of this indicator is $I_1 = 166.5\%$ that we consider as strongly positive: the average time of online participation of students in the selected pilot courses was, on average, 166.75% higher than the online participation in the compared courses.

Table 1 - Paths, courses, users online and average time online

Path and Master	Course	Users Online	Avg Time Online
Path A COMPSI	Tecniche narrative e modelli di storytelling	32.00	4h 20m
	Others	51.75	3h 35m
Path A ITAS	Sociolinguistica e linguaggi dei nuovi media	46.00	2h 16m
	Others	33.50	1h 30m
Path A RICS	Politica Internazionale	39.00	6h 14m
	Others	36.33	1h 04m
Path A	Linguistica Italiana	13.00	2h 05m

TRIN	Others	14.00	2h 12m
Path B RICS	Lab. Sistemi informativi geografici	54.00	3h 54m
	Others	11.00	4h 02m
Path B ITAS	Lab. Analisi di dati linguistici	61.00	3h 43m
	Others	26.50	1h 02m

3.2 Measure of non-attending students' participation

In Table 2 we report, for each pilot course, the percentages of attending students and students active in the eLearning platform (LOL for path A, WebClass for path B).

Table 2 - Paths, Master, Courses, attending students and active students

Path and Master	Course	Sattending	Sactive
Path A COMPISI	Tecniche narrative e modelli di storytelling	82.76%	66.67%
Path A ITAS	Sociolinguistica e linguaggi dei nuovi media	57.14%	60.53%
Path A RICS	Politica Internazionale	87.50%	100.00%
Path A TRIN	Linguistica Italiana	76.00%	40.63%
Path B RICS	Lab. Sistemi informativi geografici	75.86%	95.65%
Path B ITAS	Lab. Analisi di dati linguistici	85.71%	100.00%

As described in the introduction, an assessment system has been deployed with the purpose of verifying skills acquired by students.

The system automatically evaluated the provided answers to the testing phase assigning a digital and forgery-proof certificate to the student. These certificates follow the open badge format [12] accompanied by a more classical certificate automatically released to the students once all the tests have been completed. As the open badge, this certificate was provided with a unique authentication code that avoid digital counterfeits.

The percentage of attending students (with a frequency of over 50%) was obtained from a questionnaire completed by the students related to the academic year in which the courses were held (2017/18).

The percentage of students active online has been elaborated differently for courses of path A and of path B: In path B, statistical population takes into account students who have taken the exam of the course considered as first of the three exam sessions at the end of the course. Each of these students is considered active if one of its activities has been registered in the WebClass platform.

In path A the percentage of students active online was calculated as the ratio between the number of students registered on the LOL platform and the number of students enrolled in the academic year of the Master Degree course in which pilot courses are included.

Thus, we summarize the data in table 2 in the I_2 indicator calculated as the percentage of the courses that satisfy the relation

$S_{attending} > S_{active}$. The value is $I_2 = 66.67\%$; therefore, we consider as positive the value of this indicator because is greater than 50%. Another indicator can be calculated as the average of the percentage differences between active and attending students, i.e. $S_{attending} - S_{active}$, restricted only to courses in path B. This value, of +17.04%, is also largely positive. This indicator has been restricted to path B because we believe that the statistical population used for path A is only vaguely indicative since, probably, it also includes students who will take the out-of-course exam. Instead, the analysis carried out for path B, using as statistical population the students who took the exam in the first three appeals, more accurately measures the increase – in percentage terms – of the number of non-attending students who took the exam after a short span of time from the end of the lessons.

3.3 Soft skills' assessment

As described in the introduction, an assessment system has been deployed with the purpose of verifying skills acquired by students.

Table 3 - Skills, released badges, attempts

Soft Skill	Released Badges	Attempts
Problem Solving	25	38
Adaptability	22	28
Team Working	21	22
Networking	20	22
Organization	18	20
Communications	21	22
TOTAL	127	152

The system automatically evaluated the provided answers to the testing phase assigning a digital and forgery-proof certificate to the student. These certificates follow the open badge format [12] accompanied by a more classical certificate automatically released to the students once all the tests have been completed. As the open badge, this certificate was provided with a unique authentication code that avoid digital counterfeits.

In Table 3, are shown soft skills, released badges and total attempts of students with the test.

4. CONCLUSION

In this paper we have presented and analyzed the data collected during our courses demonstrating that the adoption of new didactic methodologies and the use of learning technology fostered lifelong learning skills of all our community of learners.

As a future line research, we would like to plan a partnership with the labour market agencies in order continue to support soft skills improvement and to sustain it over time.

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