"Know Yourself"
a strategic prerequisite to encourage academic studies

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Abstract

In the university studies the construction of significant learning takes place when the role of the teacher or tutor changes from informer and transmitter into facilitator of learning. This methodology promotes a student-protagonist that can develop and improve his/her talents starting from:
  (i)   a clear self-knowledge;
  (ii) the self-assessment of skills;
  (iii) the self-regulation of abilities.
If one of the main objectives of the education should be to provide to the students the opportunity to regulate their own independent learning, our research team starts from a more general purpose: to provide to the students enrolled in the academic scientific courses the possibility to understand how learning takes place and how it can be regulated. Starting from learning styles methodology, we built a blended-learning course entitled "Know yourself. Discover your learning styles" based on metacognitive strategies.
The aim of this course is to decrease dropouts improving student motivation and academic performance.
The course "Know yourself" leads the students to reflect on the possibilities to change or improve their way to attend the academic courses and prepare the exams, starting from the analysis of the approach to the knowledge.
The used learning environment is the e-learning Moodle platform.
After an introductory seminar, the students start to work in the platform. The on-line pathway offers teaching materials and several activities (video, readings and collaborative activities) that give the opportunity to the students to:
> know and strengthen their learning styles;
> reflect about their way to organize the study;
> rethink the implemented strategies to assimilate the knowledge and test their skills.
At the end of the course we proposed to fill in an evaluation questionnaire of the course, focusing the attention on the strengths and weaknesses.
In this work we intend to analyze the students' perceptions about the course and their opinion on the possibility to extend the proposed methodology to specific topics of the university courses which should require a more extended support.

1. Introduction
In the year 2015, at the University of Camerino, after a series of interventions in the field of guidance and counseling, we intensified the empirical research on themes of "Educate to learn" [1]. As a result of the studies and surveys conducted in the year 2016, the course "Know yourself. Discover you learning styles" was realized. This course was addressed to the students with a strong interest about understanding the mechanisms through which they learn, and about the parameters that can influence the learning itself. After a frontal meeting, during which the themes of the course and the technical e-learning platform details were presented, we asked to the students to register themselves to the e-learning course and to start to work in the Moodle (Modular Object-Oriented Dynamic Learning Environment) platform. The course offered to the students the possibility to hold responsibility about

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their learning process. We proposed to the students different activities that helped them to understand their cognitive strategies and the ways to improve or change them. In particular, students were active researcher on their way to learn, and stimulated to think about the issues that influence their learning such as: sleep, nutrition, communication, emotion, motivation, organization and reasoning. For discussion with tutor, teacher and peers the students had available in the e-learning platform the forum tool.

2. E-learning styles

Learning is a dynamic concept, defined as a change of behavior or perception as a result of experience. The learning ability is related to the possibility of: (*i*) perform a self-assessment on the need to acquire knowledge; (*ii*) find suitable tools to acquire knowledge during the whole period of life. The maturity of the experience depends on how the brain processes the information and the adopted strategies to learn. The different learning styles represent, according to the scholar J. W. Keefe, the "characteristic cognitive, affective, and physiological behaviors that serves as relatively stable indicators of how learners perceive, interact with, and respond, to the learning environment" [2]. On this basis, we researched tools and solutions for the training activities, that were able to analyze the ways in which knowledge is built and the factors that influence it. To develop and strengthen the modality of learning, it is very important to do practice and the educational dimension of the e-learning platform offers a good environment to do this. From the cohesion between learning styles and e-learning our course "E-learning styles. Know yourself" [3] was realized, based on the hypothesis that self-knowledge is the first step to improve the learning process. The first activity that we proposed to the students, for self-knowing and self-evaluation, was the questionnaire CAMEA40 "Cuestionario Adaptado para Monitorizar Estilos de Aprendizaje" [4,5]. This questionnaire allowed to the students to know their learning styles, according to a theoretical framework suggested by Alonso C. and others [6]. To obtain a complete learning the theoretical framework suggests four successive approaches: active, reflective, theoretical and pragmatic. Then, through a path structured in six modules, a metacognitive analysis on their way to learn and on their motivations and emotions was stimulated in the students. At the same time, we proposed to the students a range of activities, according to the methodology of learning styles, that allowed them to do practice with the new approaches to learn or to improve certain aspects. The last activity was a satisfaction survey that had the aim to identify specific strengths and weaknesses of the course, as well as the aim to explore the possibility to use the methodology based on learning styles for university courses.

3. Aims and methods

In this work, the students that obtained 1 universitary credit (CFU) by the first and second edition of the course "Know yourself" in 2016, were evaluated.

Despite we enrolled 199 students, only 94 completed all the proposed activities (reading materials, videos visualization, test and participation in the forum).

The aim of this work was to evaluate the efficacy of the instrument "E-learning style" in order to decrease the University dropout and to improve the students' academic performances.

To test the efficacy of this project, one of the instruments used was the final questionnaire, consisting in 21 different types of questions: open-ended and closed questions ranked on the Likert scale. About these 21 questions in this work we analyzed 6 of them: four about students' satisfaction on the course, and two about students' perception on the use of the format "e-learning styles" as a support for the different disciplines.

The data set was extracted from the Moodle platform and then analyzed with the software "Excel".

4. Results and discussions

4.1 General characteristics of the students sample

In Table 1 we reported the number and the gender of the students enrolled in the course and that completed all the proposed activities.

Table 1. Population and sample data.

Sample	Women	Men
94	65	29

We evaluated 94 students (65 women and 29 men). The obtained result suggests that women are more interested with respect to the men, in this type of course.
In Fig.1 we reported the number of the students on the bases of the university courses.
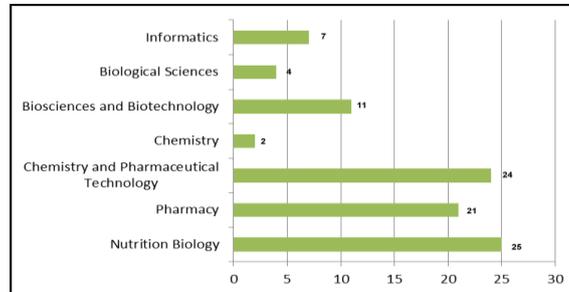

Fig.1. Students enrolled in different courses

The higher numbers of students that participated to the course "Know yourself" were enrolled in the courses of Nutritional Biology, Chemistry and Pharmaceutical Technology, and Pharmacy, with the respective numbers of 25, 24 and 21 students.

4.2 Questions on the appreciation of the course "Know yourself".
In Fig. 2 we reported the results about the question: "Did you appreciate this course?" We asked to the student to assign a grade from 1 (not at all) to 5 (very much)".
We noticed that over 70% of the students gave a positive opinion on the appreciation of the course.
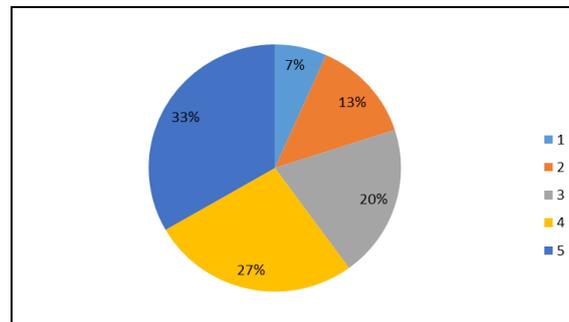

Fig.2. Course's appreciation

In Fig.3 we reported the results in percentage (yes or no) of the questions: "Did you reflected about your learning styles?". The 98% of the students declared to have thought on their own way of learning, analyzing the favorable aspects and which instead they need to improve.
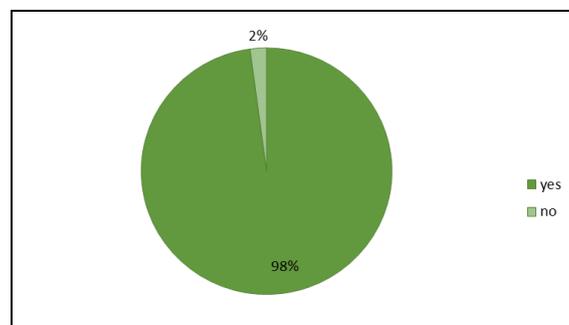

Fig.3. Reflection on learning styles

In Fig.4 we reported the results about the questions: "Did you change your ideas about learning?". The results is that more than half of the analyzed students changed their views about learning and how it takes place.
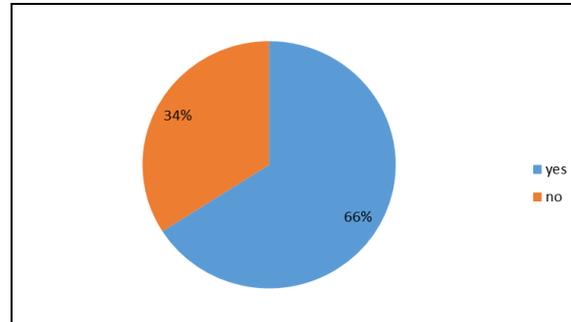

Fig.4. Change of opinion about learning

Fig.5 shows the results obtained from the questions: "Do you think you will change some of your habits in relation to the moments of study?" From the analysis of the data we noticed that 81% of the students' sample believed that the course was effective to stimulate the student to think and change their own study habits.
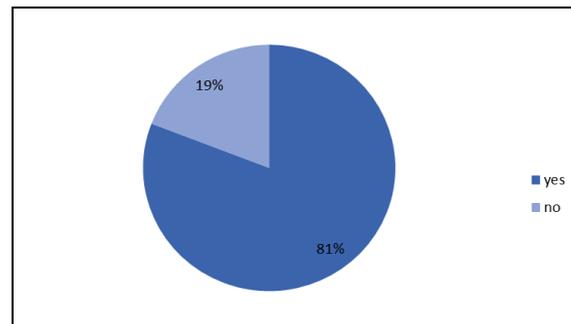

Fig.5. Change of students' study habits

4.3 Questions on the application of the methodology of the learning styles to university courses.

In Fig.6 we report the results about the questions: "Would you like to do E-learning courses, in order to improve your skills in some disciplines, considering your learning styles?". As shown in figure 6 the "E-learning styles methodology" was considered from the 73% of the students an useful tool to support disciplinary courses.
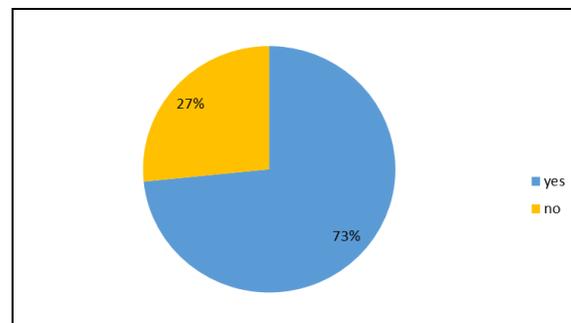

Fig.6. Students' opinion about use of "E-learning Styles" methodology to support curricula disciplines.

In Fig.7 we report the results of the open-ended questions: "For which disciplines would you like to see the realization of course paths based on the methodology of the learning styles?" The students

could give more than an answer. Fig.7 evidence that "inorganic chemistry" was the most chosen discipline by students, probably because the students have more problem to pass this exam.
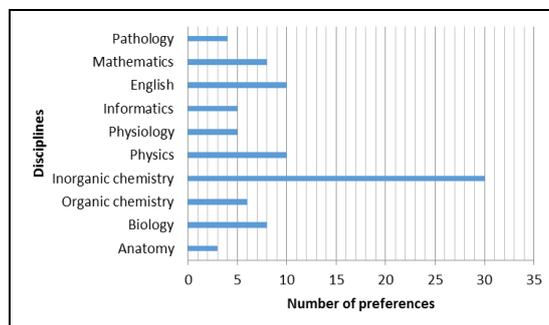

Fig.7. Number of preference about disciplines to be realized with learning styles'methodology.

5. Conclusions

The analysis of learning styles, as a basis on which to ponder and begin a process of self-improvement, confirms to be an excellent tool. This study emphasizes the importance of courses based on cross training that meet a need for personal growth and improvement of the knowledge, in which the students can improve the self-evaluation, self-regulation and management of their own learning. Finally, it manifests clearly the need for e-learning courses as a support for curricular subjects that make use of methods based on learning styles to improve the standard teaching-learning approach. Considering the overall investigation we carried out, it is possible to get indications on the level of realization of the teaching objectives of the course. It will be possible to follow the students along their improvements, obtained through the application of the learning styles discussed in this work.

Acknowledgments

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