Multidisciplinary Case Study On Higher Education: An Innovative Experience In The Business Management Degree

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ABSTRACT

Higher education is constantly changing and looking for innovative educational solutions in order to increase the level of the student´s knowledge and skills. As an important part of this set of educational policies, a new process is emerging for the ideation, planning and implementation of multidisciplinary case studies for students with the aim of developing their knowledge, meaning learning, skills and abilities that necessary for a more complete picture of the problems. In this regard, this paper shows the main results obtained with the realization of joint innovative activity experience developed by multidisciplinary areas in the Business Administration Degree (Management, Corporate Finance and Statistics). This joint activity was proposed on a voluntary basis for those students interested in working in a complete practice with other students and also as a way of replacing the individual activities of each area of knowledge. Fourteen groups of 4-5 people have done this case study, on average, the percentage of participation is about 70% of the students. The design of this methodology with an evaluation system implies students receive a significant percentage of their continuous evaluation. Also, it has allowed the students to achieve at a practical level, the how to and knows how (versus levels, ordered from low to high level of knowledge: do´s, shows how, knows how and knows) of a particular set of generic and specific skills.

Keywords: Higher Education; Educative Innovation; Multidisciplinary Task; Business Management Degree

1. INTRODUCTION

The incorporation and adaptation of Spanish university teaching to the European Higher Education Area (EHEA) or Bologna Agreement (1999) constitutes the acceptance and commitment too meet the objectives defined therein, such as the use of a design of easily comparable degrees, a degree structure divided into two main cycles and the establishment of the European Credit Transfer System (ECTS) (Feixas, 2004).

This agreement suggests and implies, among other things, the transformation of the methodology from the strict field of teaching. So far, the traditional or lecture involved the choice preferred by the professorate as a tool for teaching a given subject subject. In fact, the change of philosophy of education to (self-) learning requires inexorably greater student participation, either in the development of traditional classes, and the resolution of the practices / exercises raised in non-contact time.

Methodologies such as the method of problem-based learning, project method or methods of mutual teaching and learning are revolutionizing the traditional concept of university education, in which the student ceases to be a passive subject to become, along with the professor, an active person with concerns and needs about knowledge: in fact, according to Shuell (1986), the so called *active learning*, in which the student should not learn through another person but rather learn to teach himself how to learn, and students themselves have to learn to

digest and use what they learn to deal with real situations effectively (Martínez & Viader, 2008). This involves the objectives of both (teacher and student) should result in a common symbiotic purpose: to acquire skills that allow students to develop a competitive career, with the base of a solid, comprehensive, rigorous, consistent and useful education.

New methodologies must respond, according to Huber (2008) to three relevant challenges: to prepare future generations to fulfill their respective roles in the labor market through their knowledge and skills, to participate as active citizens in society and fulfill their personal responsibilities. The concept of *competence* is coined as a term that includes the traditional concept of knowledge: aims to mobilize knowledge, skills and abilities, defined as resources, which mix is adapted and targeted to each particular situation (Martínez & Viader, 2008).

Student participation in the ordinary development of university teaching claims a change in the time dedication throughout the class period; in particular, it demands a transfer of attention and dedication to the study and understanding of the knowledge to be acquired from the specific stage of exams to the prolonged period of classroom time. Therefore, the role of students changes: they stop being mere listeners of a lecture to become accomplices in giving one, meaning they stop being simple spectators of a "play" to assume, within limits, the role of actor, sometimes lead actor, others secondary actor, but they acquire a specific gravity relevant and important to the development of the "play", losing its meaning when it lacks the participation of some of its actors.

The role of teachers is also modified, requiring a development of competencies within it , allowing a pooling of their knowledge, skills, abilities, ... in summary, their resources and capabilities and they must be able to transmit the energy to the students, stimulating changes in them; where employability and personal/professional fulfillment come together effectively (Palomares, 2010).

In this sense, evaluation methodology, tool used to assess the acquiring, understanding and application of knowledge to be obtained in a given subject, is compelled to adapt to the evaluation of the new role taken on by students. Shifting from evaluating knowledge to assessing a range of skills that students must demonstrate they have acquired and mastered (Huber 2008, Martínez & Viader 2008, Palomares 2010).

The establishment, definition and allocation of competences, which can be generic or specific, are listed in the Memory of each degree to every University. This report is reviewed by the National Agency for Quality Assessment and Accreditation (ANECA), whose approval is a *sine qua non* requirement for the supply corresponding degree.

The aim of this paper is to present a methodology to ease the incorporation and adaptation of first year students of Business Administration, at University. Establishing synergies in the realization of case studies between different areas of knowledge, as well as standard evaluation criteria to evaluate generic and specific competences, common among the subjects performed which make up this assessment.

2. MATERIAL AND METHODS

This methodology is used in the second semester of the first year of the Business Administration Degree, offered and taught at the University of Castilla-La Mancha, at the Faculty of Social Sciences in Cuenca.

Participating subjects are Financial Mathematics, Business Statistics and Fundamentals of Business Administration, included respectively in three different areas of knowledge: Corporate Finance, Statistics Business and Management.

Present methodology consists in solving a case study, made up of a series of issues that include concepts pertaining each subject and homogeneously integrated which students have to solve as a whole and complete problem, and not by blocks or differentiable sections between them and attributable to the appropriate area of knowledge.

A document is provided to them at the beginning of the semester, which contains the formal, technical, structure, resolution, presentation, rules of valuation and, support activities to answer questions and guidance for the resolution of the case study.

Formal conditions include forming working groups (3-5 students enrolled in any of the participating subjects) and the voluntary resolution of this case study; voluntary participation will have some weight in the final score, in each subject: Financial Mathematics, 15%; Business Statistics, 20% and Fundamentals of Business Administration, 20% and Company Math II; an additional 10%. Those students not wishing to participate in this exercise will be able to obtain the same extra credit by solving practical cases for each subject, to be established by each teacher at the beginning of the school year. Final score of the case study will be unique and assigned to all members of the group; it will also be the same for each subject and for the ordinary and extraordinary calls of that academic year. If students do not pass any of the subjects in these calls, they will lose the score for future courses.

The practice is directed to students enrolled in any of the four subjects, regardless of whether students are new enrollments or repeats of any of the materials. It is not required to be enrolled in all subjects to do the case study. Also, students who do not wish to solve this case study may obtain the appropriate score by solving practical alternatives for each subject, designed by each professor.

The practice consists in each group selecting a company included on the IBEX-35 (different for each group), and they must solve a series of issues related to the structure of the company, SWOT analysis, investment decisions in the business area and a funding simulation section, based on their accounting and financial-economic status.

The study case must be submitted to professors in a Word document, according to a tight guide which is detailed in the technical conditions. Also, all members of each group have to make a public defense against professors and classmates, which have the possibility of raising doubts, questions or suggestions. Both the written and the presentations about each company will be available for other groups.

The evaluation of the case study is distributed as follows: 50% of the total score corresponds to the written document, where the aspects reviewed are quality, originality, adaptation to the formal criteria and requirements, argumentation, basis of the findings, conclusions and bibliography; 30% of the total mark is belongs to public exposition of the practice and resolution of questions raised by students-professors; the remaining 20% corresponds to the proper grading of the rest of the work that´s being evaluated.

3. RESULTS

A total of 64 students have participated in the described methodology. Due to the number of repeat students the enrollment figures for each subject varies among courses, so the level of participation is also different Percentage of participation is different in each subject due to the number of repeats, inasmuch total enrollment students of the course is different in each of the subject. However, on average, the percentage of participation is about 70% of the students. Table 1 shows main results obtained with this methodology, disaggregated by strengths and weaknesses.

Table 2 shows the scores rated by professors and students. Scores rated by professors are not significantly different from scores given by the students, which include the self-group evaluation and score given by other groups. The average score deviation of 0.17 points (out of 10), between final score and score rated by professors is less than the average score deviation between final score and score rated by students, which rises to 0.24 points; if this deviation is considered in absolute value, to avoid compensation of sign, the deviation amounts to 0.32 points (out of 10).

Table 1. Strengths and weakness of methodology *case study*

Strengths	Weaknesses
- It has allowed students to work in groups with some generic competences listed in the guidelines of the subjects of first year courses in the degree (ex. information research, report writing, oral presentation and synthesis of concepts). - It has allowed students to understand and work from the perspective of knowledge and competences which are various aspects referred to the business field (ex. financing, data analysis, decision making and numerical calculations). - It has avoided students (and professors) the hassle of having to do several individual practices for each subject and compressed them into one big joint practice. 14 groups of 4-5 people have done this case study. The rest will have to do all practices initially specified in the teaching guide for each subject. - It has made it possible to design a methodology with an evaluation system, where students receive a significant percentage of their continuous evaluation (40%-50%) and final score (15%-20%) for each subject.	- The activity was carried out in groups of 2-5 students which has made it difficult to locate and assess the individual contribution on the final work. - Repeating students enrolled in second year courses who have failed some of the first-year subjects (included in the present methodology) show a reduced predisposition to do the case study because they have already passed some subjects. This implies the establishment of alternative individual practices to be graded only in subjects which they haven't passed. - Students have had a limited time of 45 days to the case study. This implies some groups have solved the practice later, being constrained to make a sprint finish to deliver it or to suffer a penalty for "suspiciously resembling" those of other groups. - Some first year non repeat students don't do this practice. The reasons why this happens are unknown, since this methodology is voluntary.

Table 2. Score rated by professors and students

Group / Company	Average score rated by students	Average score rated by professors	Final score	Average difference in the final score rated by students	Average difference in the final score rated by professors
Santander	6,26	6	6,25	-0,01	+0,25
Inditex	6,48	6,5	6,75	+0,27	+0,25
Telecinco	6,47	6,5	6,75	+0,28	+0,25
Acerinox	7,20	7,25	7,5	+0,30	+0,25
Acciona	7,16	7	7,25	+0,09	+0,25
Endesa	7,14	7,75	7,75	+0,61	0,00
Telefónica	5,95	6,5	6,5	+0,55	0,00
BBVA	6,32	6	6	-0,32	0,00
Iberdrola	7,08	7,25	7,5	+0,42	+0,25
Gas natural	7,00	7	7,25	+0,25	+0,25
Gamesa	6,20	6,25	6,25	+0,05	0,00
Antena 3	5,87	6	6,25	+0,38	+0,25
Repsol	6,01	6	6,25	+0,24	+0,25
Mapfre	6,48	7,25	7,25	+0,77	0,00
Ferrovial	7,27	6,75	7	-0,27	+0,25
Promedio	**6,59**	**6,67**	**6,83**	**+0,24**	**+0,17**

4. CONCLUSIONS

The use of this methodology has allowed the student to achieve at a practical level, *the how to* and *knows how* (versus levels, ordered from low to high level of knowledge: *do´s*, *shows how*, *knows how* and *knows*) in the following generic and specific competences (Miller 1990, Tolentino 2012). Generic competences achieved are:

G1: Possessing skills for continued learning, self-directed and autonomous, allowing them to develop learning skills necessary to undertake further studies with a high degree of autonomy.

G4: The proper use of Information Technologies, applying them to the corresponding business department with specific programs in such business fields.

G5: Ability to work as a team, to lead, to direct, to plan and to supervise multidisciplinary and multicultural teams, in the national and international environment of companies and their respective departments, to achieve beneficial synergies for the entity.

Specific competences achieved are:

E5: Developing the ability to transform and analyze any information of the situation and possible evolution of the company, into business opportunities.
E7: Knowing and understanding the economic environment as a result and application of theoretical or formal representations about the economy works. Students will be able to understand and to use common manuals and articles, in general, leading literature in the core subjects of their curriculum.
E11: Knowing the operation and consequences of different economic systems.
E13: Ability to perform logical models which represent business reality.

The set of competences acquired is the achievement of two-thirds of the total competencies of four subjects. The competencies acquired and some of those obtained with the methodology presented, are relegated to the design and distribution of each of subject, including the written exam.

The average score obtained with this methodology amounts to 6.83 points: an acceptable score for a novel approach, whose implementation has been incipient. The tools used in this methodology, such as the use of information technologies, attendance to tutorials and the resolution of questions in class, become possible variables associated with good results in students' scores, according the findings of Florido et al (2011).

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