

# ADAPTATION TO THE ECTS OF THE SUBJECT 'CONSTRUCTION OF NON-STRUCTURAL ELEMENTS' FOR THE FUTURE DEGREE 'BUILDING ENGINEER'

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## Abstract

Due to the imminent creation of the degree "Building Engineer", it has been thought appropriate to verify if the criteria set by the EHEA is being applied to the subject of "Construction of Non-structural Elements" in the third year of Technical Architecture. The main objective of the subject is to ensure that students get knowledge and that they can apply it in a technical and objective way.

For this reason, a programming of tasks orientated towards the acquisition of competences has been developed and the tasks have been associated with an estimated time of dedication on behalf of the student, including both, study and practice. In order to verify if these times are being fulfilled or not, surveys among students are carried out in order to determine if the initial prediction was correct.

Another of the planned objectives is to improve the quality of teaching. Therefore, aspects such as sense of learning, motivation, organization, group interaction, personal attitude, contents, amount and difficult of work, exams and course work will be analyzed. This way, it is expected to identify strengths and weaknesses in order to be able to design a plan for improvement that can be put into practice.

## Keywords

ECTS experiences, working load, continuous improving, teaching surveys.

## 1. INTRODUCTION

The subject of "Construction of Non-structural Elements" in third year of Technical Architecture is given at the University of Alicante, as a core subject and lasts for a whole academic year. It consists of 60 theory hours and 60 practice hours, taught twice a week, two hours per lesson. It is structured in five thematic parts, two given in the first four-month period and the other three given in the second four-month period.

At the moment, there are four teachers sharing the groups in the morning and in the afternoon, with a total of 302 students enrolled in this subject.

The adaptation of the University degrees to the European Higher Education Area (EHEA) involves proceeding with substantial changes in the teaching methodology. For this reason, we have thought of the convenience of verifying whether the criteria established by the EHEA are being applied due to the imminent creation of the studies of degree in "Building Engineer".

## 2. OBJECTIVES

The main objective is to verify whether the methodologies currently used in this subject would be adapted or not to the European demands and quantify the total hours that the student dedicates to his learning task.

Another of the planned objectives proposed is to improve the quality of teaching. Therefore, aspects such as sense of learning, motivation, organization, group interaction, personal attitude, contents, amount and difficult of work, exams and course work will be analyzed. This way, it is expected to identify strengths and weaknesses in order to be able to design a plan for improvement that can be put into practice.

### 3. METHODOLOGY

The study is concentrated on evaluating both students and teachers of the groups of the lessons in the afternoon.

The procedure followed to achieve these purposes has consisted of controlling the attendance taking into account the practice work given, as well as the elaboration of two surveys.

The first survey (91 students) is aimed to get information about:

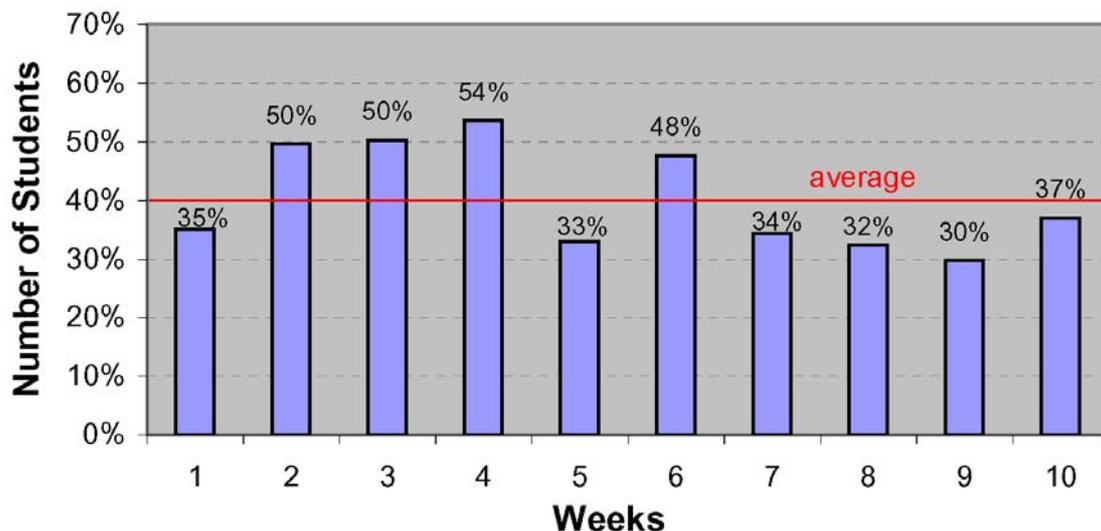
- Attendance of the student and his participation in lessons.
- The ways used in the information research and the time spent on it.
- The time dedicated to study and autonomous work.
- Use of face-to-face and virtual tutorship.

The second survey (106 students) tries to get information about aspects which will help in the improvement of the quality of teaching, for what the survey "Student Experience of Education Questionnaire" (*SEEQ*), from Herb Marsh [1], has been used.

### 4. RESULTS

About the control of the attendance made to the students in the afternoon lessons (about 151 students), we notice that their presence in them is very low, since only an average of 40% assists to them, ranging between 30% and 54%. From the surveyed students, only 84% confirms attending usually to the lessons; this corresponds with the information obtained about the control of attendance (see figure 1).

Figure 1. Students attendance to lessons during the first four-month period.



As for the student time spent on his task of learning, we compare the average values obtained from the first survey with the range established in the technical report titled "The European Credit and the Spanish Education System" [2].

According to this report, for the 60 theory hours of the subject, it would correspond between 3-4 hours per week of the student dedication, whereas for the 60 practice hours it would be 1,5 hours per week.

Starting from these values, the teaching staff has issued an estimated distribution for each part of work (see table 1).

Table 1. Hours of dedication in the student learning.

		Dedication of the student in hours		
		Survey average	MIN. according ECTS	MAX. according ECTS
Theory	Information research (library, web)	1,3	0,8	1,0
	Study (exams, reading, exercises)	2,4	2,0	2,7
	Others (seminars, tutorship)	0,7	0,2	0,3
Practice	Visits to works (photographic data)	0,9	0,5	0,5
	Documentation (bibliography and rules)	0,6	0,5	0,5
	Issuing index card (draw and writing)	0,7	0,5	0,5
<b>Total time per week</b>		<b>6,6</b>	<b>4,5</b>	<b>5,5</b>
<b>Total time academic year</b>		<b>198,0</b>	<b>135,0</b>	<b>165,0</b>

As for the use of tutorship, both face-to-face or virtual, we observe that only 18% of the students confirms using them usually; consequently, we consider it an underrated resource.

The results on the surveys *SEEQ* are positive, being the values between 2,89 and 3,95, out of the maximum of 5. The lowest punctuation has been obtained in the field "Course work", whereas the most valued aspect has been the "Personal attitude" of the teaching staff (see table 2).

Table 2. Results of the survey *SEEQ*.

	Average Punctuation	Standard Deviation
Learning	3,59	0,96
Enthusiasm	3,40	1,02
Organization	3,18	1,05
Group interaction	3,55	0,94
<b>Personal attitude</b>	<b>3,95</b>	<b>0,82</b>
Contents	3,44	0,85
<b>Course work</b>	<b>2,89</b>	<b>1,06</b>
Amount and difficulty of work	3,37	0,98

## 5. CONCLUSIONS

The attendance of the students of theory-practice lessons is very low. The main reason of this situation is due to the fact that this subject is given in the last year of degree and most of the students wants to start the job market, consequently it is impossible for them to attempt to lessons.

According to this situation, we consider the need to add half face-to-face learning systems to the student in order to reduce the drop-out rate at University.

As for the estimation of the dedication of the students, we consider that they do not distribute the time properly. In any case, we consider the convenience of decreasing the teaching load carried out by the student in an autonomous way.

We consider the need to encourage and promote the use of tutorship, both face-to-face and virtual, as a learning tool.

Thanks to the values obtained in the *SEEQ* surveys, the aspects that must be improved by the teaching staff have been identified and selected. We consider as positive the punctuation obtained in the fields related to learning, motivation and group interaction, all of them priority aspects for teachers of this subject.

## References

- [1] Marsh, H.W., "SEEQ: A reliable, valid, and useful instrument for collecting students' evaluations of university teaching". *British Journal of Educational Psychology*, 1982, nº52, p. 77-95.
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