



Tools in Spanish Universities to Facilitate the Transition from High School to University and their Assessment

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1. INTRODUCTION

2. MATERIALS AND METHODS

- 2.1. Instruments: “Zero-courses” and virtual platforms
- 2.2. Opinion questionnaire.
- 2.3. Statistical analysis.

3. RESULTS

- 3.1. Questions about “zero courses”
- 3.2. Questions about “self evaluations”

4. CONCLUSIONS



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1. INTRODUCTION

In general, new students have

- difficulties with the analysis and criticism of the topics discussed,
- limitations in their knowledge of basic science,
- failures in problem solving,
- poor understanding reading,
- bad study habits
- and poor capacity for synthesis



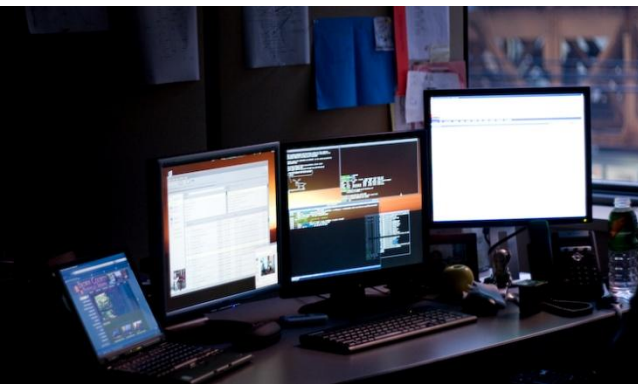


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1. INTRODUCTION

In general, greatest difficulties of the students are related:

- with the inefficiency of the study,
- little capacity for self learning,
- and lack of basic knowledge for the study of science.



Also it has been noted that the new students rarely use the consultation of materials, books, and even information on the net.



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1. INTRODUCTION



University institutions are enhancing their academic services to help the new students, in order to provide them opportunities to increase their academic performance.

This paper presents:

- (1) a review of the tools provided by Spanish universities to facilitate the transition from high school students to University in the learning of knowledge;
- (2) the analysis and results of a pilot survey carried out by a small number of students.



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2. MATERIALS AND METHODS

2.1. Instruments:

In Spain there are 52 public universities that provide information on these tools, till course 2009/2010.



Two widespread activities in Spanish universities are:

- The “even-up” courses or “zero-courses” ,
- Virtual platforms with self-assessment exercises.

They are aimed at high school students first coming into the university and that need to overcome the lack of training.



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2. MATERIALS AND METHODS

2.1. Instruments: "zero-courses" ,

These courses try, mainly, to update the knowledge already acquired in the core subjects required in 1st course of different universities and standardize the level of students from different backgrounds .

Objectives of subjects in "zero-courses" :

“to review concepts studied in high school”,

included in the official curriculum of First and Second courses of Baccalaureate .

they improve the motivation and participation in courses for first year





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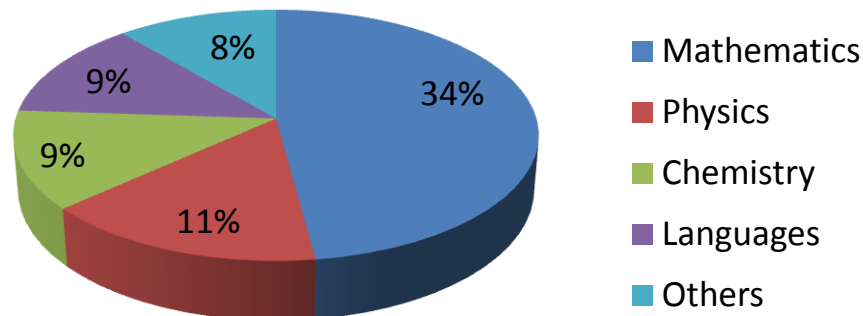
2. MATERIALS AND METHODS

2.1. Instruments: "zero-courses" ,

The 56.86% overall the public universities offer such courses.
The total of different subjects offering is 313 .

Math subjects:

- Calculus,
- Algebra,
- Mathematical Analysis,
- Mathematical Models,



The same subject can be taught with different levels depending on the orientation of the degree to study, the center or the professor



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2. MATERIALS AND METHODS

2.1. Instruments: “self-evaluation through virtual environments”

Allows activities that promote learning before, during and after the academic period.



From a theoretical point of view, the self-assessment has the advantage that it can face the diversity of students.

Self-evaluation is particularly appropriate to teach in the responsibility and to learn how to value the individual learning carried out .

Despite the theoretical advantages of this tool has not been sufficiently developed in Spanish universities.



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2. MATERIALS AND METHODS

2.1. Instruments: “self-evaluation through virtual environments”

The effectiveness of this methodology is not sufficiently tested empirically.



Only 7 of the 52 universities analyzed have this tool:

- ✓ three of them present self-assessment in subjects isolated;
- ✓ UCM and UPM display their self-study materials and self-assessment tests as a whole, even though with different characteristics.

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2. MATERIALS AND METHODS

2.1. Instruments: “self-evaluation through virtual environments”

The Complutense University of Madrid (UCM) with a tool called “Comprueba” (Check):

This tool offers the possibility to choose a subject from a list of 23 to test the knowledge that is have got.

“Comprueba” tool is of free access and is available since 2003 at:

<http://alamo.sim.ucm.es/comprueba/intro.htm>





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2. MATERIALS AND METHODS

2.1. Instruments: “self-evaluation through virtual environments”



“Starting point” (“Punto de inicio” of UPM) was opened in the academic year 2004/2005.

It uses the Virtual Classroom of Moodle and access is restricted to students who have an e-mail account of the UPM for which they should be registered in the respective courses.

The most widely used self-tests are the subject of Mathematics. The students that more have used the platform are of the Technical Telecommunications School.

The access link is: <http://moodle.upm.es/puntodeinicio/>.



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2. MATERIALS AND METHODS

2.2. Opinion questionnaire.

The questionnaire consists of 13 questions in four pages, with a brief presentation on the objective of the survey.

The questionnaire contains:

- 7 questions related to different aspects of the courses "zero";
- 3 items related to the self-evaluations;
- 2 items to describe the sample (sex and age)
- 1 control question (open question) over the opinion expressed.



Most questions are based on multiple-choice Likert scale, with scores assigned to each item ranging from 1 (strongly disagree) to 5 (totally agree).



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2. MATERIALS AND METHODS

2.3. Statistical analysis.

The students survey was carried out in the Extremadura University, with a sample size of 68 students.



Statistical data analysis:

Descriptive.

Comparison of the two instruments: by a test to compare medians with the help of spreadsheet Excel and Statistical software Statgraphics 5.1

The age range of the sample was 17 to 24 years, with an average of 18.8 years.

The 72.1% of respondents were male, while 27.9% were women.



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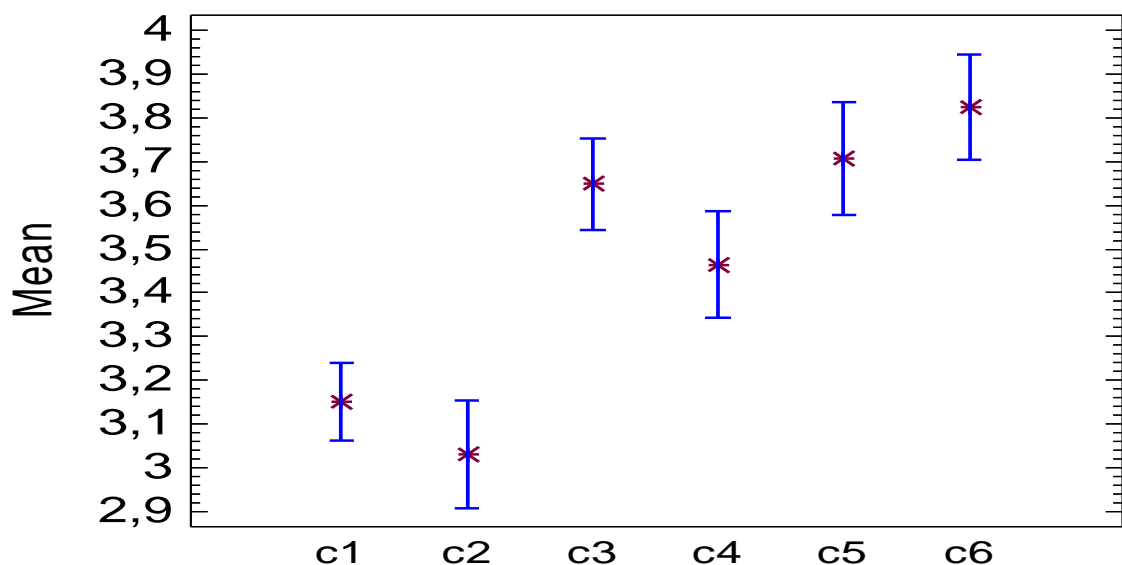


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3. RESULTS

3.1. Questions about “zero courses”

Importance that students attach to different aspects of their participation in these courses



c_1 = difficulty
 c_2 = place
 c_3 = subject
 c_4 = date and time
 c_5 = professor
 c_6 = content



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3. RESULTS

3.1. Questions about “zero courses”

Questions to assess student opinion regarding the importance of including "zero-courses" in the University.

85.3% are agreed with this importance

88.2% stated that these courses did not influenced to choice University

95.6% considered them useful

73.1% would like to have more courses of this type

94.1% of respondents considered appropriate content



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3. RESULTS

3.1. Questions about “zero courses”

Number of these courses offered by the University:



This question was assessed with a Likert scale :

1 = insufficient to 5 = enough

Mean = 2.38

Median = 2

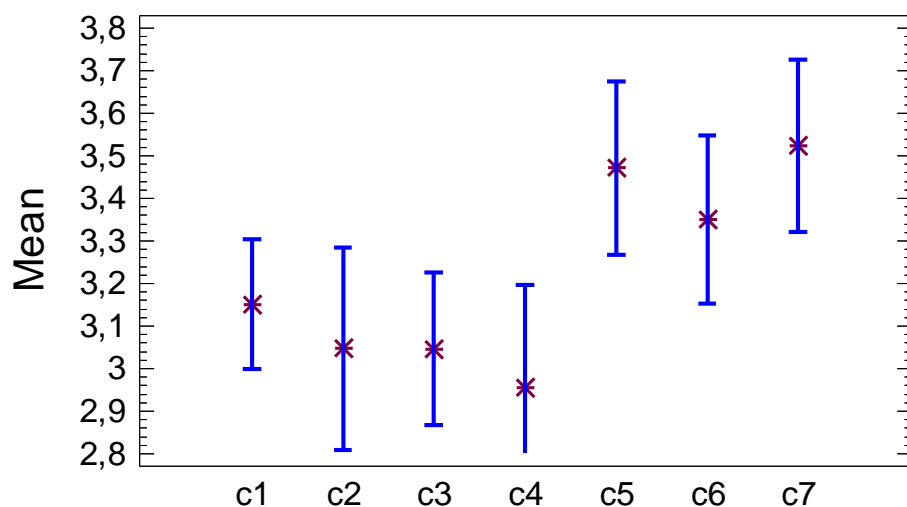
Respondents considered scarce the "zero courses" offered at their university.

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3. RESULTS

3.1. Questions about “zero courses”

About quality of different aspects of these courses:



(c1) issues

(c2) number of hours

(c3) explanations

(c4) date

(c5) professor

(c6) content

(c7) materials

$2.9 \leq \text{Means} \leq 3.5$

95% Confidence intervals for Means



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3. RESULTS

3.1. Questions about “zero courses”: **Open –response questions**

The best valued aspects:

- ❖ Content and methodology (works and continuous assessment),

The least valued aspects:

- ❖ Schedule
- ❖ Methodology of practices and explanations in class.

A 73.1% of respondents would do a "zero- course" again in his university.



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3. RESULTS

3.1. Questions about “zero courses”: **Degree of interest in these courses**

Mean value = 3.36

Std. error = 0.09

95% confidence interval for the average rating [3.17 ; 3.55]

So the interest of the students is slightly above the mean.

Overall assessment of “Zero courses”:

On a scale of 1 to 5:

Mean = 3.3 ; Std. error = 0.11.

95% confidence interval for the average rating , [3.07 ; 3.51]

So the global assessment of those courses is positive.



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3. RESULTS

3.2. Questions about “self evaluations”: Degree of help that provides to students

- Assessed with a Likert scale : 1 = insufficient to 5 = very helpful

Mean value = 2.91

Median = 3

It's sufficient to support obtained by the self-assessments to overcome the new year at university (72,9%).

Overall assessment of self-evaluations

On a scale of 1 to 5:

Mean = 3.33 ; Std. error = 0.12.

95% confidence interval for the average rating , [3.09 ; 3.57]

So the overall assessment of self-evaluations was positive.



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3. RESULTS

Comparison “zero courses” and “self-assessments in virtual platform”

No significant differences were found between the two cases (p-value = 0.99, sign test for medians).

4. CONCLUSIONS

Support tools developed by universities were positively evaluated.

Spanish universities have promoted zero courses facing to self-assessment tools.

However, students surveyed show their preferences by self-evaluations comparing to zero courses.



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Thank you

