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Impact of the economic crisis in construction: a perspective from graduate students

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Abstract

The current economic crisis has affected the Spanish construction industry causing the loss of 1.2 million jobs in the last four years. This paper seeks to analyze the impact of this crisis in construction from the point of view of the students of a M.Sc. in Construction Management, investigating the evolution of student's perception on unemployment and their motivations to enroll in the master degree. For this purpose, a questionnaire was handed out to students of three consecutive classes of the M.Sc. in Construction Management at the Universitat Politècnica de València (Spain). A statistical analysis of the survey was developed. This way, some interesting points can be highlighted on the impact of crisis on young construction professionals.

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Keywords: Construction; Economic Crisis; Employment; Motivation; Labor Market; M.Sc. Degree.

1. Introduction

The quality of the learning process at the higher education level is a classic cause of concern for all the stakeholders. Particularly, there are two indicators that can be analyzed in order to assess the quality of a higher education program: students' motivation and students' employability. During the educational process, students' motivation is considered one of the most important elements in the learning process (Alonso, 2001; Hall, 1996). Some recognized institutions, such as ABET in United States (ABET, 2008) or ANECA in Spain (ANECA, 2007), are currently evaluating the quality of higher education taking into account graduates' employability also. In fact,

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one of the objectives of higher education programs must be to provide adequate training and skills to ensure employability and competitiveness of graduates, allowing them to enter the job market (Storen & Aamodt, 2010).

However, both students' motivation and students' employability are closely conditioned by contextual variables (Torres-Machí, Carrión, Yepes, & Pellicer, 2013; Yepes, Picornell, Torres-Machí, & Pellicer, 2012a). In the Spanish construction industry, the current economic crisis has caused the loss of 1.2 million jobs in the last four years, representing more than 75% of job losses (Seopan, 2012).

Nevertheless, more students have enrolled graduate programs related to construction management. On the one hand, the current crisis has led to an increase on students' enrolment in these programs. On the other hand, low employment opportunities for the graduate students can cause a lack of motivation. Because of this fact, achievement of learning outcomes may be severely affected. In this regard, authors have recently carried out several studies in order to analyze the effect of the current situation in motivation and employability of students enrolled in a master degree in construction management (Torres-Machí et al., 2013; Yepes et al., 2012a; Yepes, Pellicer, & Ortega, 2012b; Jiménez, Pellicer, & Yepes, 2011). However, the rapid changes in the economy are having a serious effect in the construction industry and, therefore, in students' motivation and employability. This paper seeks to analyze the temporary evolution of the impact of the current economic crisis on students' motivation and their perception of employability.

2. Research method

Two questionnaires were designed to collect information from students of the Master of Planning and Management in Civil Engineering (PMaCE hereafter) taught at the Universitat Politècnica de València (Spain). The first questionnaire tackled the problem of students' perception of their employability. This anonymous survey was delivered to the last three classes of the PMaCE, which accounted to a total of 112 students (43, 39 and 30 students in the classes of 2010, 2011 and 2012, respectively). This questionnaire comprised two parts. The first part contained questions about the respondents' backgrounds: age, gender, nationality, current job status, professional experience and expected net wage in the next five years. In the second part, respondents were asked to give their opinion on 21 variables collected in the questionnaire (Torres-Machí et al., 2013) as possible reasons for the high unemployment rate of graduates in construction (Table 1).

Table 1. Questions regarding students' perception about their employability (Torres-Machí et al., 2013)

Code	Questions	Code	Questions
E1	Current economic crisis	E12	No eagerness to work
E2	Globalization in the Spanish construction sector	E13	Ill-advised managerial decisions
E3	Government's employment policy	E14	Many people with simultaneous jobs
E4	Government's public infrastructure policy	E15	Unemployed professionals lack foreign language skills
E5	Lack of government funding for housing	E16	Unemployed professionals lack initiative to work in other countries
E6	Real estate "bubble"	E17	Inadequate design of university programs
E7	Significant public debt	E18	Too many professionals for current market demands
E8	Lack of training of university graduates	E19	Too many universities offering similar undergraduate degrees
E9	Unemployed graduates only seeking good jobs	E20	Too many universities offering similar graduate degrees
E10	Lack of job search know-how	E21	Inadequate master degrees to fulfill market demands
E11	Socially imbalanced job distribution		

The second questionnaire analyzed students' motivation to enroll the master program. For this purpose, a questionnaire was submitted to 72 students of the PMaCE of the last two classes (44 and 28 students in classes 2011 and 2012, respectively). This second questionnaire consisted on 15 questions (Table 2) dealing with three aspects: students' extrinsic motivation (i.e., professional expectations); students' intrinsic motivation; and students' opinion about participative classes.

Table 2. Questions regarding students' motivation to enroll the master program

Code	Questions	Code	Questions
M1	Training deficiencies for entering the labor market	M9	Improvement of communicative skills
M2	Social and professional prestige	M10	Improvement of technical skills
M3	I am unemployed	M11	Sharing professional experiences with classmates and teachers
M4	PMaCE repeats concepts from previous training	M12	Meeting experienced teachers
M5	Acquisition of more professional skills	M13	I prefer expositive classes
M6	Improvement of chances of finding a job	M14	I prefer participatory classes
M7	Improvement of salary expectations	M15	If not because of the economic crisis, I would not have enrolled the PMaCE
M8	Improvement of teamwork skills		

In both questionnaires, the students' were asked to tick an appropriate rating on a standard five-point Likert scale that reflected their opinions on the importance level, with 5 being “completely agree” and 1 “completely disagree”. The analysis undertaken consisted on a statistical analysis of the temporary evolution of students' perception about employability and motivation.

3. Results

Student's background was analyzed considering six categories (Table 3). Since 2011, the typical student's profile has suffered little changes regarding age, nationality, gender, and organization main area of professional experience. Regarding these categories, the typical student is a 26 years old or younger Spanish male with none professional experience. Some variations can be are presented in Table 3 regarding current work status and expected net wage in the next five years. It is apparent from this table that the number of unemployed students has significantly increased in the last year. On the other hand, what is interesting in this data is that even if the number of employed students is being reduced, the expected net wage salary is increasing, with more than a half of the students expecting to earn more than 2500 €/month (55000 €/year).

Table 3. Students' background description

Categories	2010	2011	2012	Categories	2010	2011	2012
Age				Net wage expectancy			
<26	53%	36%	53%	< 1500 €/month	7%	15%	13%
26-29	23%	33%	27%	1500-2500 €/month	49%	44%	27%
>29	23%	31%	20%	> 2500 €/month	44%	41%	57%
Gender				Current work status			
Male	58%	87%	60%	Employed	37%	59%	20%
Female	42%	13%	40%	Unemployed	63%	38%	80%
Nationality				Professional experience			
Spanish	72%	72%	63%	None	42%	33%	53%
Non-Spanish	28%	28%	37%	1-3	30%	33%	23%
				>3	28%	33%	23%

Questions in both surveys were grouped looking for a better and easier interpretation of the results (Torres-Machí et al. 2013). Six groups were in identified for analyzing students’ perception of graduates on unemployment: graduate intrinsic reasons (GE1); current situation related to Spanish economic policy (GE2); training gaps (GE3); structure and characteristics of the labor market (GE4); excess of graduates / qualifications (GE5); and construction

industry management problems (GE6). Table 4 shows these groups, their interpretation and the statistical description (mean and standard deviation) over time of the variables included in each group.

Table 4. Grouping of employment variables and statistical description

Group	Interpretation	Code	2010		2011		2012	
			Mean	S,D,	Mean	S,D,	Mean	S,D,
GE1	Graduate intrinsic reasons	E8	2.21	1.01	1.72	0.97	2.03	1.09
		E9	2.86	1.25	2.54	1.33	2.72	1.22
		E10	2.79	1.17	2.23	1.04	2.68	1.22
		E12	2.49	1.30	2.21	1.36	2.21	1.18
		E15	3.14	1.30	2.90	1.12	2.97	1.12
		E16	3.21	1.08	2.95	1.26	3.00	1.07
GE2	Current situation related to Spanish economic policy	E2	2.58	0.98	2.69	1.20	3.57	1.29
		E3	3.51	1.05	3.23	1.33	3.75	0.80
		E4	3.67	0.94	3.36	1.29	3.79	0.73
		E5	3.05	0.90	2.62	1.14	3.29	1.05
		E7	4.12	1.07	3.59	1.21	4.36	0.73
GE3	Training gaps	E17	2.49	0.98	2.59	1.12	2.38	1.08
		E21	3.02	1.14	3.03	1.29	2.72	1.07
GE4	Structure and characteristics of the labor market	E1	4.51	0.70	4.41	0.85	4.79	0.41
		E11	2.81	1.03	2.82	1.17	3.21	1.13
		E14	2.49	1.08	2.59	1.16	2.25	0.80
GE5	Excess of graduates / qualifications	E18	3.95	0.95	4.03	1.01	3.69	1.11
		E19	3.72	1.08	3.31	1.28	3.17	1.23
		E20	2.98	0.96	2.54	1.05	2.66	1.20
GE6	Construction industry management problems	E6	4.02	1.06	4.03	1.22	3.93	1.02
		E8	2.21	1.01	1.72	0.97	2.03	1.09
		E13	3.26	1.03	3.13	1.22	2.93	1.00

Data in Table 4 and Fig. 1 and 2 are quite revealing in several ways. First, it can be seen that groups GE1 (graduate intrinsic reasons) and GE2 (current situation related to Spanish economic policy) have evolved along time with a reduction between 2010 and 2011 and a later increase of importance between 2011 and 2012 (Fig. 1). On the other hand, students' perception about training gaps (GE3) has suffered an increased in the first period (2011-2012) and a later reduction in the second (2012-2013). In Fig. 2 there is a trend of increasing importance of the structure and characteristics of the labor market (GE4) and a trend of decreasing importance of groups GE5 (excess of graduates / qualifications) and GE6 (construction industry management problems).

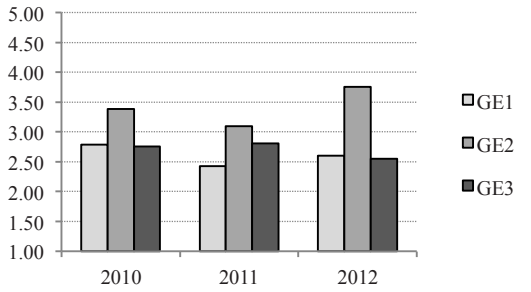

Figure 1. Evolution of groups GE1, GE2 and GE3

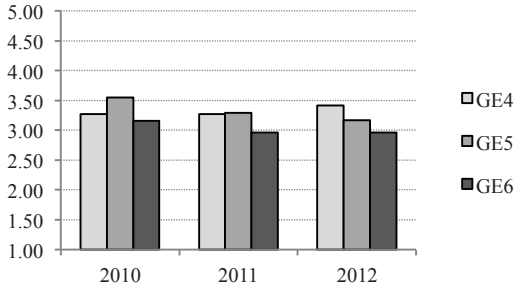

Figure 2. Evolution of groups GE4, GE5 and GE6

Questions regarding motivation were grouped in three categories: extrinsic motivation, focusing on the professional expectations (GM1); intrinsic motivation, focusing on new knowledge and skills (GM2); and students' opinion about participative classes (GM3). These groups and their interpretation are shown in Table 5. This table also shows the statistical description (mean and standard deviation) of the questions obtained over time.

Table 5. Grouping of motivation variables and statistical description

Group	Interpretation	Code	2011		2012	
			Mean	S.D.	Mean	S.D.
GM1	Extrinsic motivation (professional expectations)	M1	3.79	0.88	3.41	1.28
		M2	3.18	1.02	3.18	1.17
		M3	2.36	1.52	1.98	1.19
		M5	4.18	0.67	4.30	0.63
		M6	3.93	0.72	3.80	0.85
		M7	3.32	1.09	3.25	0.99
		M15	2.30	1.23	2.43	1.35
GM2	Intrinsic motivation (new knowledge and skills)	M4	2.36	0.95	1.80	0.79
		M8	4.29	0.60	4.36	0.65
		M9	4.46	0.58	4.20	0.70
		M10	2.93	1.09	3.09	1.03
		M11	4.04	0.58	4.05	0.81
		M12	3.96	0.69	3.73	0.69
GM3	Participative classes	M13	2.32	1.02	2.27	1.02
		M14	4.25	0.70	4.18	0.76

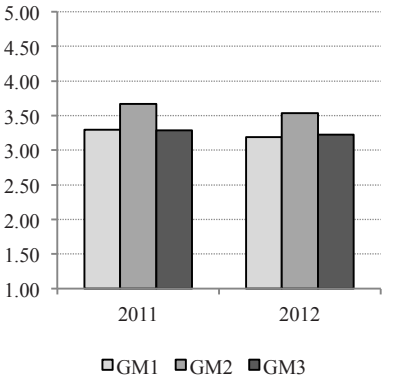

Figure 3. Evolution of GM1, GM2 and GM3

From the data in Table 5 and Fig. 3, it is apparent that the evolution of students' motivation has suffered little changes in the last two classes of the master program. Average values of extrinsic motivation (GM1), intrinsic motivation (GM2) and students' opinion about participative classes (GM3) remain almost constant in the analysis period (Fig. 2).

4. Conclusions

This study has investigated the temporary evolution of students' perception about employability and their motivation during the last three classes of a master program in construction management. The current economic crisis has specially affected the construction industry. In this changing context, the purpose of this study was to assess the impact of the economic crisis in students' motivation and their perception about employability, being these factors two important variables for the success in the learning process. This study has shown that:

- The typical student of the last three classes of the master program is 26 years old or younger, Spanish male with professional experience in construction site supervision in private organizations.
- The number of unemployed students has significantly increased in the last year. This increasing number of unemployed students contrasts with the fact that they expect to earn a higher wage salary.
- Regarding students' perception of their employability, variables related with graduate intrinsic reasons (GE1) and current situation related to Spanish economic policy (GE2) have suffered a reduction in the first period and a later increase in their importance. Other factors, such as the importance of the training gaps (GE3), have evolved in an opposite manner. Factors related to the labor market (GE4) have gained importance in students' perception of employability, while they perceive that the excess of graduates / qualifications (GE5) and factors related to construction industry management problems (GE6) are nowadays less important than in previous years.
- Students' motivation has suffered little change in the last two classes of the master program, remaining their average values almost constant.

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