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## Perceptions And Attitudes Of Students Of Teacher-Training Towards Environment And Sustainability

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### Abstract

This paper report on a questionnaire survey at three Universities of the Comunidad Valenciana, Spain, on the current baseline situation in order to introduce sustainability across university's curricula. The objective data enabled us to know the situation of students in relation to introduce sustainability in both Early Childhood Education Teacher Degree and Primary Education Teacher Degree. A total of 922 students answered the survey. A majority of respondents were not aware of the impact of their daily activities on the environment. With regard to the introduction of sustainability in teaching, the majority of students said that it is an appropriate measure.

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### Introduction

Now that the first decade of the 21<sup>st</sup> century has just gone by, the planet faces important, complex and interrelated challenges and problems concerning human development and life-styles. Problems are interlinked and their solution demands stronger political compromises and more resolute measures. Challenges come from values created by unsustainable societies (Elizalde, 2009), but the knowledge, technology and competences needed to turn the situation around are now being made available. Our potential must be mobilized in order to take advantage of all opportunities for improving action and, thus, bringing about the change needed. Such a change must tend to provide training students all the skills that the new social framework requires to achieve an environmentally sustainable human development. The project in which the present study is included, tries to state basic competences as well as to adopt sustainability criteria required to reevaluate and guide curricular programmes for them to be applied on the

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different training practices (Aznar et al., 2011). From this point of view, education for sustainability can help society to address different type of problems, mainly those referred to water, energy, climate change, disaster and risk reduction, biodiversity loss, food crisis, threatens against health, social vulnerability, or insecurity (Vilches y Gil, 2009). Nowadays, the interconnectedness of ecosystems, societies and economies is growing quickly and complexity is increasing rapidly (Rieckmann, 2012).

Therefore, future graduates as well as Teacher-Training students should be trained according to criteria and values to reach sustainability. To do so, Universities will have to acquire a central comprehension of the view of sustainability so that students can consider this perspective in their future professional activities as teachers.

A previous analysis of the current literature, has allowed us to find references for both knowledge and attitudes concerning environmental and sustainability problems of the university students (Corney y Reid, 2007; Murga, 2008; Gomera, 2008) and for their ideas about the concept of sustainability (Cotton et al., 2007; Walshe, 2007). We report on a questionnaire survey at three Universities of the Comunidad Valenciana, Spain, on the current baseline situation for introducing sustainability across university's curricula.

## 2. Methodology

The study population was formed by the 2.261 students which, in 2008-2009 school year, were being trained for a Teacher-Training Degree in the specialities of Early Childhood Education and Primary Education, in the three public centers for Teacher-Training of the Comunidad Valenciana, Spain. The total number of surveys was 922, 707 of them belonged to the University Jaume I of Castelló from which 226 surveys were collected (24.5% of the total, error of 5.5%), 800 students were studying at the University of Alicante, with a sample of 390 surveys (42% of the total, error of 3.6%), and finally of the 754 students from the University of Valencia, 306 surveys were obtained (33.2% of the total, error of 4.4%), being the overall error of 2.5%(2 $\sigma$ ), reflecting an adequate significance for these type of studies.

In the sample collected, women predominate (88.3%), data which correspond to the real facts of enrolled students. Comparing them with the statistical data of the entire student body of the Teacher-Training College of the University of Valencia, in both specialities Early Childhood Education and Primary Education, women represented 87% and 82%, respectively. If comparison is made among all the students enrolled in the 2007-2008 school year at the University of Valencia, 61% were women and 39% men. Thus, the trend that Teacher-Training studies are mainly carried out by women, as has been the case for many years, is confirmed. Most of the people surveyed (83.1%) undertake their studies between the ages of 17 and 24.

The questionnaire is organized into five blocks: the first one dealing with the incidence of university activities (P1 to P4); the second one concerning the conceptualization and reality of sustainability in the curriculum (P5 and P6); the third one linked to training and studies professionalization towards sustainability (P7 to P13); the fourth one regarding student responsibility and involvement towards environment and sustainability (P14 to P18); and the fifth one related to the current situation of these issues in each university (P19 to P24)<sup>†</sup>

## 3. Results and discussion

In order to present this work for international broadcast, we selected the most general issues. Within block number one dealing with the incidence of university activities (P1 to P4), question 1 is underlined "*Do you think your daily activities in university life somehow affect the environment?*" 75% answered that their daily activity at University does not affect the environment in any way, and only 22.5% thought it did. The fact that such a high number of Teacher-Training students are unaware of the environmental impact that their daily activities have on their study centers, is of great concern. That is to say, they are not capable to establish any relationship between the use of materials, water and energy, waste generation (paper, printers' inks, plastics, chemical products from their practical subjects, etc.) and negative impacts on the environment.

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<sup>†</sup>Questionnaires in Sustainability and Higher Education : <http://www.uv.es/~acuveg/index.html>

These results agree with those obtained by Gomera (2008) in a study developed with students of the University of Córdoba. In such study it was also concluded that students considered their daily activities did not have great influence on environment, mentioning the term “environmental farsightedness” (Uzzell, 2000; Jiménez, M. y Lafuente, R., 2010) by which there is a diffuse environmental consciousness due to the fact that environmental problems are considered as worse as the further they are, encompassed within a general tendency to view the environment as being under a greater threat in wider geographical areas. Thus, the sense of responsibility turns powerless to problems which are perceived at a global level.

Question 5 of the second block, concerning the conceptualization and reality of sustainability in the curriculum, states: “UNESCO asserts that it is necessary an effort to introduce approaches in University curricula in accordance with sustainability (what we understand by greening the curriculum). Do you think this could be an appropriate measure for your University?” 75.9% answered yes, 0.9% answered no, and 20.8% was not sure for it to be so. With regard to question 6, “According to you, which are the main sustainability problems of your University?”, students mentioned first of all the excessive consumption of resources (47.3%), followed by the lack of involvement in social problems (38.5%), and waste management and selective collection failures (25.4%). Remaining answers are available in Figure 1.

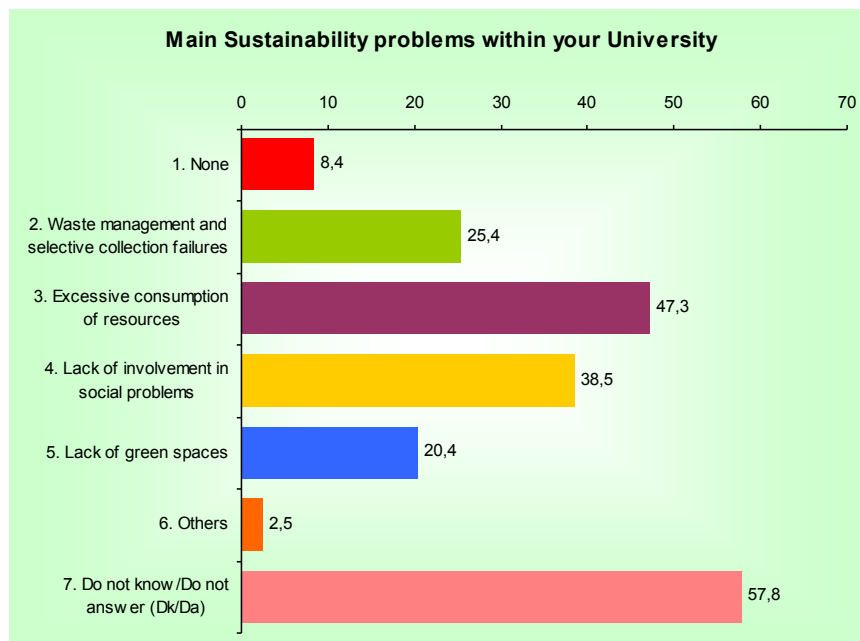


Figure 1: Sustainability problems within the University

The fact that the excessive consumption of resources was the main problem for the majority of respondents would be a good outcome, if it were not because more than half of the surveyed students (57.6%) did not know what to answer. In other words, environmental consciousness about the problems affecting their near context is still not settled down.

Question number 7 is also underlined within the third block linked to training and studies professionalization towards sustainability, this is, “Do you think that, in the studies you are accomplishing, there is enough training (awareness, techniques, skills, etc.) offered for you to be able to deal with environmental problems in the future?”. 49.7% answered they have not received enough training to cope with environmental problems in the future; 34.9% answered yes, but there is still a lot to do in this field, and only 2.6% answered yes and with a quite satisfactory level. For 11.3% of the surveyed students this issue remained unknown. As a conclusion, in the training of future teachers reinforcement in this area is needed.

And with respect to question number 9, “Which are the shortages you would highlight on your training in order to educate in sustainability?”, students could mark up to three answers, being the results just as follows: practical activities implemented for different ages and contexts (70.7%, 652 students); use and location of resources (38.4%, 354 students); inserting education for sustainability in the subjects they will impart when teachers (38.1%, 351 students); the lack of knowledge dealing with a specific methodology (35.8%, 330 students), and so on. It needs to be highlighted the high percentage of students (71.6%, 660) which do not know or do not answer about the difficulties they would have in order to educate for sustainability (Figure 2).

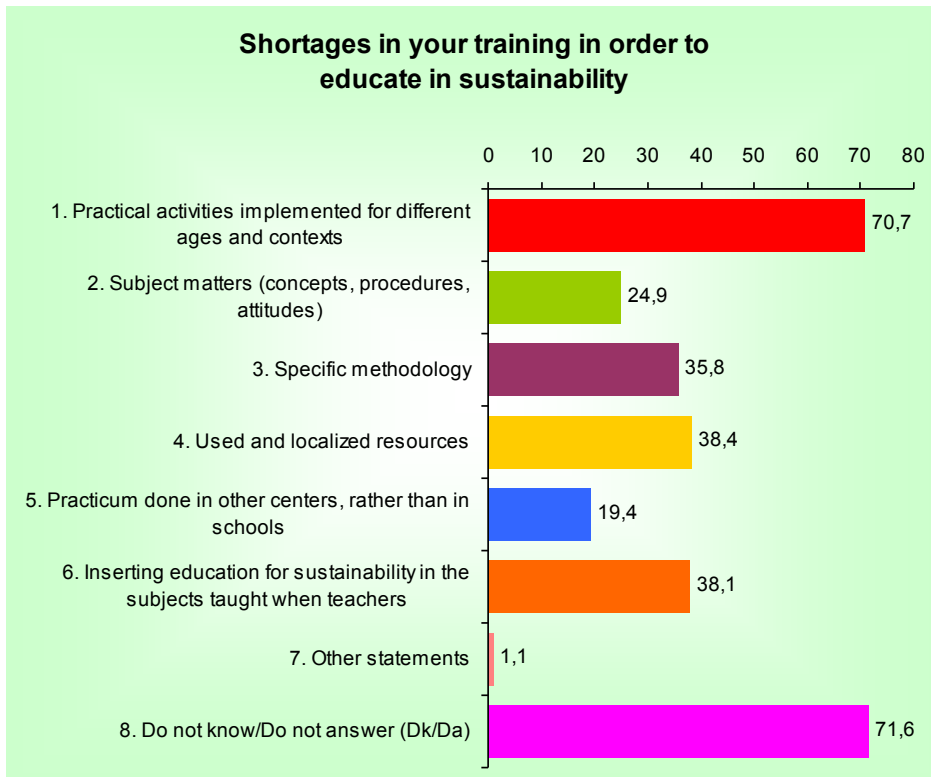


Figure 2: Shortages in training to educate in sustainability

Finally, in the last block dealing with the current situation of these issues in each university, and referring to question number 22, which said “Have you taken or are you taking any greened subject?”, 30.3% of the students declared yes, 65.0% answered no. Such a result raises the need of introducing curricular changes related to sustainability.

#### 4. Conclusions

The majority of respondents were not aware of the impact of their daily activities on the environment. With regard to the introduction of sustainability in teaching, 75.9% of students said that it is an appropriate measure. Almost half of the surveyed answered that they have not received enough training in their qualifications to deal with environmental problems in the future. It is important that universities disseminate their initiatives and students become more involved in university life. In the training of future teachers reinforcement of sustainability competences is needed (Aznar & Ull, 2009). As it is pointed out by Murga (2008), all these shortcomings may impede social course redirection towards sustainable development as long and repeatedly claimed by international institutions and organisms (UNESCO, 2005), and demand, as a matter of urgency, an efficient educative

intervention by means of new training programmes which promote the acquisition of knowledge, values and attitudes in favour of sustainability, overcoming the barriers that could appear (Holmberg, & Samuelson, 2006; Adomsset et al., 2007). The results achieved, are good and useful indicators to guide possible modifications of the corresponding study programmes.

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