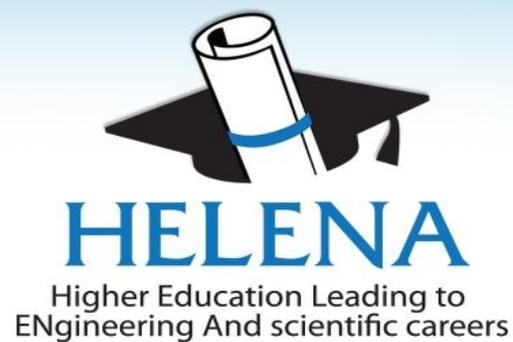




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Benchmarking and Promising Practice for HE





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Executive summary

The European Commission has set far-reaching gender equality in the Engineering & Technology (E&T) fields. HELENA project contributes to these initiatives by examining the presence of women in E&T higher education and exploring the impact of interdisciplinary E&T study programmes in attracting more female engineering students.

The research done in HELENA project aims to explore the students' perception and personal reasons for the E&T study choice and the influence of the cultural or social context in their decision, HELENA identifies which are the subtle processes and mechanisms operating in E&T education that contribute to sustain gender inequality, and to analyze the success of "innovative" degree courses in comparison with the "traditional" ones in attracting more female engineering students.

The work carried out under the previous work packages of the HELENA project, mainly WP2, WP4 and WP5, together with the work done in WP6 have given a judgment on the needs, to provide new ways of measure the relationship between students' perception of E&T, in general and of interdisciplinary E&T fields in particular, and study choice. In task 6.1 some interesting preliminary conclusions have been identified after exploring the impact of other factors on career choice and gender in engineering by partner country. Other related studies have been also explored.

In Task 6.2, TECNALIA research group intended to take into account the different dimensions involved to attractiveness potential of E&T high education disciplines, analyze and identify opportunities for improvement. As a result, a five dimensions' model was proposed with a set of quantitative and qualitative indicators to measure E&T study programmes and their impact assessing the attractiveness of female students which are specific to E&T higher education. The combination of the five dimensions - study programme performance, university structure, personal background, national educational governance, and social & cultural context – is expected to give more comprehensive view on E&T high education programmes attractiveness potential and it reveals the diversity of aspects that could influence the study choice of young students, females in particular (Arrizabalaga et al., 2011b). The model proposed is an attempt for structuring the factors that may influence the decision of pursuing a career in engineering.

The HELENA model has been contrasted against the case studies of the partners' countries in Task 6.3. The research group intended to explore if some common pattern was appreciated in the E&T study programmes of the case studies, regarding their attractiveness and to benchmark them taking into account the different dimensions involved in the assessment model. The goal is to understand where these E&T study programmes stand and where our higher educational system may look for improvement. The results are summarized in this report.

It is needed to note that it has not been possible to gather the complete information and data demanded by the model from the case studies (that goes beyond the objective of HELENA



project). Thus, the results of the analysis done in Task 6.3 should be considered as a very preliminary approach where further research would be needed. It could only be suggested which influencing factors are important for E&T students' interests.

The HELENA model was constructed on the basis of the results of the different tasks in previous work packages of the research project HELENA, Higher Education Leading to ENgineering And scientific careers². The project is funded by the European Commission under the 7th Framework Program (FP7), DG Research - Science in Society. It is coordinated by Siauliai University (Lithuania) and partners from Austria (Alpen-Adria Universität Klagenfurt), France (Ecole Normale Supérieure de Cachan and Egalité des Chances dans les Etudes et la Profession d'Ingénieur en Europe), Serbia (Mihailo Pupin Institute), Spain (Fundación Tecnalia Research & Innovation) and United Kingdom (Loughborough University) are involved.



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