
OR/MS EDUCATION: EUROPEAN STEM TEACHERS' PERCEPTIONS ON STUDENTS ENROLMENT AND TRANSITION TO LABOUR MARKET

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ABSTRACT

The present work focus on the perceptions of the Science, Technology, Engineering, and Mathematics (STEM) teachers concerning two specific topics: (A) the enrolment of students; and (B) the transition to the labour market. For that, a statistical analysis that was addressing the lecturing modules of the survey developed within the EURO-European Association of Operational Research Societies 's umbrella [1] is now treated by focusing Computer Science, Engineering, and Mathematics' respondents. A description of the STEM teachers' answers, to each question, is presented and analysed in terms of Positive and Negative perceptions, as well as Non-existence or Lacking sufficient information (NE) on the subject. And the type of OR/MS lecturing modules existent in the respondents' HEI is also taken into account. Regarding the enrolment of students (topic A), although there is a positive perception about the existence of plans to promote it, the opposite occurs relatively to the existence of joint work projects with pre-university teachers. Concerning the existence of an interlocutor to establish contacts with primary/secondary schools, levelled opinions could be observed, being that approximately a third of the respondents' report Non-existence or Lacking sufficient information on the topic. Additionally, 44% of the STEM teachers have a positive opinion of the assessment activities related to the enrolment of the students. Concerning the specific OR/MS queries, not only a negative opinion was stated by more than 30% of the respondents, but also more than 55% of them refer Non-existence or Lacking sufficient information on the subject. Concerning the transition onto labour market (topic B), an almost positive perception (47% of the responses) can be observed in both the promotion of the transition of graduates onto labour market and the assessment of activities related to labour market, while, levelled Positive/Negative opinions could be perceived regarding the existence of an interlocutor to establish contacts with labour market organizations. With reference to the specific OR/MS queries, a negative perception could be noticed and 28% of the respondents indicated that do not know or do not exist specific promotion of entries into labour market in the OR/MS field. In addition, the relations between the STEM teachers' perceptions and the types of OR/MS lecturing modules (bachelors/masters, majors/minors, or just courses) in their own institutions are also examined. No relationship between the types of OR/MS modules and almost all the questions can be perceived; there is only one single exception, concerning the general HEI's transition of graduates onto labour market; but even in this case only a weak relationship could be observed. The results are detailed and a comparison analysis is developed; it can be concluded that more attention should be payed to these two important topics — enrolment of students and transition onto labour market— and thus more work has still to be done in this area of knowledge.

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Keywords Education · OR/MS modules · enrolment · transition into labour market

References

- [1] Teixeira A.P., Miranda J.L., and Pato M.V., The European survey on OR/MS Education: statistical analysis addressing the lecturing modules, In: Topcu Y.I., Ekici Ş.Ö., Kabak Ö., Aktas E., Özaydin Ö. (eds), *New Perspectives in Operations Research and Management Science*, International Series in Operations Research Management Science, Springer Verlag, June 2022, pp. 293–315.