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Attracting Tomorrow’s Engineers: An evaluation of a scheme to enhance recruitment into engineering

The Engineering Education Scheme (EES) is one of a number organised by the Royal Academy of Engineering, as part of its *BEST* programme. The aim of the EES is to attract talented, highly motivated and creative young people into industry.

Youngsters are recruited to the scheme in the autumn of their 12th year in school. They are typically 16 to 17 year olds, and will have just started on a two-year pre-university course of study. Interview panels are held in October. An induction day takes place in late October/ November at which the nature of a project-based task is outlined. The participants are grouped in teams of about 4 participants to work on an engineering project. Each team is based in a local school. Most commonly the participants attend the same school. While a lot of the work is done in school after classroom hours, most progress is made when the teams have access to engineering facilities during a residential workshop run over 3-4 days. The process culminates in a regional Presentation and Assessment day at which students make presentations to the assessment panel and to a public audience. In a typical year around 1100 participants are involved from about 250 schools across England.

The research questions were: (i) Are participants more likely to become engineering undergraduates than in the absence of the scheme? (ii) Is the proportion of students starting undergraduate engineering courses with good quality A’level results (The UK national examination typically taken by 18 year olds.) higher than would have been the case in the absence of the scheme? The answer to both these questions is, “Yes”.

245 schools and colleges were involved in the EES programme in 2000 which provided 1180 participants. Only 448 participants had completed every single instrument in turn (38%). 3,513 students formed an initial representative control sample. By September 2001, a destinations questionnaire was returned by only 1168 control students. A participating student was more likely to be educated in a private school and have somewhat better academic attainment. Although this means comparisons should be treated with some caution, it does mean the *BEST* programme was achieving its aims in recruitment of the best to the programme.

Additionally, our analysis of the data led to a discussion of wider implications for recruitment to undergraduate engineering programmes. There is common agreement amongst participants and controls on the salaries that can be expected in different careers. Engineering is not the best paid job. So its attractions do not lie in its financial rewards. More needs to be made of these *other* rewards – such as the creative, social and self-esteem - in advertising engineering as a career. Surveying engineers to find out where they get most satisfaction would provide

useful intelligence for engineering recruitment. Participants cited twice as many direct personal engineering connections as influencing their career choice than did the controls. Having access to personal stories, perhaps from engineering ambassadors, is important. Finally, tasks that are intended to be motivational and form the core of a recruitment programme need to be well matched to the participants' capabilities so they see engineering as personally self-fulfilling, satisfying and involving creative challenges within their reach.

As one of the primary supporters of *BEST* the Gatsby Charitable Foundation commissioned an independent evaluation of the EES. The views expressed are entirely those of the authors.

Author 1: Martin Monk email: martin.monk@gtep.co.uk

Author 2: Nicolas Smith

Article Link: http://www.tandf.co.uk/journals/tf/03043797.html

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