

**ZMATH 1999b.00773**

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**Attitudes of engineering students to mathematics - a comparison across universities.**

Int. J. Math. Educ. Sci. Technol. 30, No. 1, 47-63 (1999).

There is much debate about the level of mathematics ability of students starting engineering courses at university. However, attempts to determine a student's performance in mathematics as a function of their mathematics qualification on entry is very difficult, as a wide range of performance is achieved by students with the same qualifications. Clearly other factors are at work, including the attitudes of students towards mathematics teaching. This paper presents the results of a survey of the attitude of engineering students to mathematics in three different UK universities. Further, information has also been obtained on students' ratings of teaching methods and mathematics topics. From this, it is found that students can be placed into five groupings known as High Flyers, Downhillers, Ambivalents with Good Pre-University Teaching, Ambivalents with Poor Pre-University Teaching and Haters. The members of each of these groups record significantly different responses to many of the questions posed, but in particular to their university, gender, home or overseas status, mathematics qualification on entry to university, the rating of the difficulty of mathematics topics and the rating of the usefulness of teaching methods. Finally, a factor analysis shows that three independent factors are important in determining students' attitudes: the pre-university experience, the university experience and the perceived difficulty and workload at university. (orig.)

*Classification:* C25

doi:10.1080/002073999288102