

WHO'S AFRAID OF THE CHEMISTRY LAB?

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ABSTRACT

First-year University Chemistry students frequently experience significant anxiety in the Chemistry laboratory. This has been ascribed to fears around handling chemicals, unfamiliar equipment and chemical procedures, collecting data, working with other students and time pressures (Bowen, 1999). Use of the Attitude Toward the Subject of Chemistry Inventory v.2 instrument (Xu & Lewis, 2011) in a large enrolment second-semester first-year Chemistry class established that anxiety was inversely correlated with previous chemistry experience. This is surprising as one would assume that greater familiarity would decrease anxiety. A student survey (see Figure 1) revealed that the main factor producing anxiety was time-pressure. Using an information-processing model to inform an intervention, pre-laboratory exercises were expanded, in accordance with Abraham's observation that most learning occurs prior to laboratory classes (Abraham, 2011). Access was also given to *LabSkills* multi-media resources as part of the pre-laboratory preparation. Student responses suggest that these approaches are more effective in ameliorating anxiety for those students already possessing a high degree of self-efficacy.

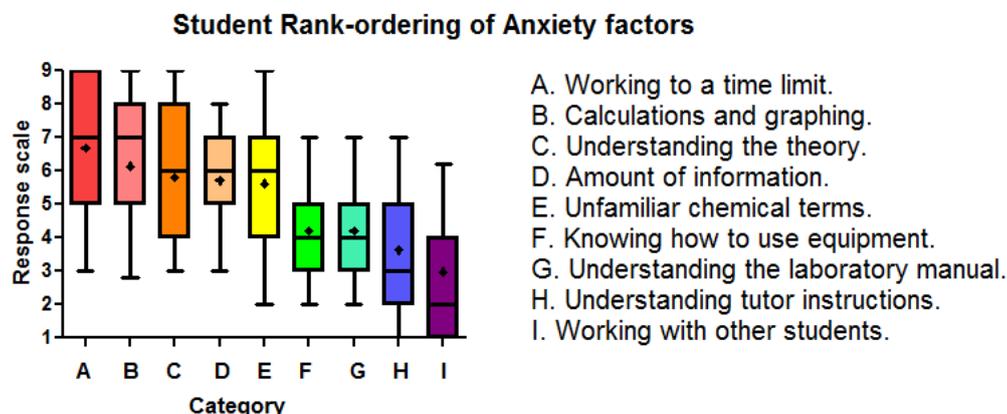


Figure 1: Student rank-ordering of anxiety factors. Boxes represent upper and lower quartiles, with whiskers representing the highest and lowest deciles. Means marked with “+”.

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