

**ZMATH 2005d.01735**

**Stewart, Sepideh; Thomas, Michael O.J.**

**Difficulties in the acquisition of linear algebra concepts.**

N. Z. J. Math. 32, Suppl., 207-215 (2003).

Research shows that linear algebra is not an easy course to teach to first year university science and mathematics students. Around the world many students struggle to grasp the ideas in linear algebra, which although they may appear simple, are very powerful, with inner depth. This paper describes a study with first year mathematics students at The University of Auckland who completed a questionnaire containing some conceptual questions examining geometric, matrix and algebraic representation of linear algebra, along with a questionnaire on their attitudes to the course. Results suggest that there are student difficulties concerning understanding definitions, a tendency toward a procedural approach rather than a conceptual one, and an apparent lack of representational versatility.

*Classification:* H65

*Keywords:* students thinking; psychology of learning mathematics