

Self-Explanation Training in Linear Algebra

Supervisor: Dr. Anthony Cronin

Linear Algebra courses are perceived to be difficult at university level and many students cite the concepts and proofs involved as difficult to grasp and retain.

In recent years studies on *self-explanation training* for mathematical proof comprehension and retrieval have shown promise.

This PhD thesis would require an extensive literature review of self-explanation training in both mathematics and non-mathematics fields. In addition, a systematic review of mathematical proof comprehension and creation at university level, particularly in the areas of linear algebra and matrix theory, would be conducted. The ultimate aim of the thesis is to devise a set of evidence-based recommendations both for instructors and learners of linear algebra to improve the teaching, learning and assessment of the subject. The interested candidate should be willing to use new and existing educational technology tools as well as exploring creating their own.