

Design principles for digital testing in Linear Algebra

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Abstract

Digital testing offers many advantages such as more reliable, more transparent and faster grading. However, concerns remain about the fairness of digital testing, as students lose marks due to the potential of making “small mistakes” in a question where students gain “all or nothing” of the points. To investigate, we collected the rough work of two cohorts of students in a Linear Algebra exam, where half of the exam was based on their final answer. During this presentation, I will share how we prepared students for the exam, what analysis we did on the rough work of the students, the findings of the analysis, and what we learned for the future design of digital testing of Linear Algebra.

Biography

Alisa Lochner completed a bachelor's in Mathematics and Computer Science at Rhodes University, South Africa. Soon after, she completed a Post-Graduate Certificate in Education (PGCE) in the teaching of High School Mathematics. During her PGCE she did an internship at Kingswood College, where she then continued to work for a further two years.

Alisa moved to the Netherlands to combine her passion for Mathematics, Technology and Education in the master's programme of Educational Science and Technology. She worked with the University of Twente's Digital Testing of Mathematics group to write her master's thesis, which investigated the digital testing of Mathematics.

Currently Alisa is employed in the Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS), furthering the Educational Research and Development of digital testing of undergraduate mathematics.

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