ITE non-academic entry evaluation using SimLab

Peter R. Whipp
College of Science, Health,
Engineering and Education
Murdoch University
Perth, Western Australia

Susan Ledger
College of Science, Health,
Engineering and Education
Murdoch University
Perth, Western Australia

Antoinette Geagea
College of Science, Health,
Engineering and Education
Murdoch University
Perth, Western Australia

Murdoch University requires all Initial Teacher Education (ITE) candidates to respond to a 5-minute SimLab interaction with the aim of teaching a topic of choice, learning something about each avatar and concluding, by asking questions to confirm understanding of the information discussed. A rubric, addressing 4-criteria, is used to evaluate student success. A demonstration of SimLab and preliminary research data that explores the effectiveness and predictive validity of simulation as an on-entry performance assessment are the foci of this work.

Keywords: Simulation, Teaching, Evaluation, Avatars

Introduction

To be first implemented in 2019, the Australian Institute for Teaching and School Leadership (AITSL) requires an on-entry non-academic evaluation for all ITE candidates *(https://www.aitsl.edu.au/deliver-ite-programs/standards-and-procedures)* that is "*consistent with engagement with a rigorous higher education program, the requirements of the particular program and subsequent success in professional teaching practice*" (Standard 3.2).

The technology

The SimLab technology (formerly known as TeachLive) offers a unique blend of virtual reality technology and live human performance that creates powerful and immersive learning simulations for pre-service teachers. SimLab technology is used AS the classroom not IN the classroom and offers a safe learning environment (Figure 1).

Figure 1. SimLab^{TM} Virtual Classroom

The technology offers a 'real time' mixed reality learning environment, with classroom pupils being represented by avatars that respond in real time. A human looped 'interactor' manipulates five avatars in a similar manner as a 'puppeteer'. Each avatar is personalised in form, voice, and persona and their identities are cognitively and behaviourally modelled on the work of psychologist William Long's (1989) categorisation of adolescent personalities. Research shows that users of the technology actually become empathetic to the emotions, abilities and circumstances of the avatar (Dieker, Rodriguez, Lingnugaris-Kraft, Hynes, & Hughes, 2014).

Murdoch University has positioned itself to be a leader in simulation, being the first in the southern hemisphere to introduce mixed reality learning environments into initial teacher education (ITE) to practice and prepare its graduates as they transition into the workforce.

In response AITSL Standard 3.2, Murdoch University, requires the applicant to successfully respond to a 5-minute SimLab experience. There are four evaluation criteria for judging dispositions. The applicant must achieve success in at least 3 of the 4 criteria:

1. Language and discourse: Classroom appropriate words, Comprehension, Coherence, Clarity, Fluency
2. Improvisation: Initiative, Resourcefulness, Timely, Appropriate responses
3. Rapport building: Interpersonal skills, Engagement, Active listening, Questioning skills, Caring
4. Teaching self-efficacy: Presence, Command, Attentive, Awareness, Organisation.

A live demonstration of SimLab and specifically the Initial Teacher Education (ITE) 5-minute non-academic entry evaluation process will be a feature of this session. Participants will view the purpose designed rubric used to evaluate student success. Preliminary research data that explores the effectiveness and predictive validity of simulation as an on-entry performance assessment are the foci of this work.

Research design and preliminary result

Eighty-seven initial teacher undergraduate students (f = 60, m = 27) formed a surveyed sample to investigate perceptions of the utility of SimLab as a tool for entry evaluation.

First, we tested the correlations of the seven variables, as identified by AITSL as key capabilities associated with successful teaching: motivation to teach, strong interpersonal and communication skills, willingness to learn, resilience, self-efficacy (self-confidence), conscientiousness and organisational and planning skills, to assess the size and direction of the linear relationship between the variables. Next, we employed multiple regressions to test the predictive utility of each of six variables on criterion variables: motivation to teach, resilience and self-confidence in a two-step hierarchical process.

The linear relations between the variables under investigation were found to be strongly, positively and significantly correlated. Motivation to teach, $r = .70$, and self-confidence, $r = .68$, $p < .01$ were most significantly and positively associated with conscientiousness. Resilience was most strongly associated with willingness to learn, $r = .57$, $p < .01$.

The findings of the hierarchical multiple regressions (Models presented at ASCILITE, 2019) indicate for the outcome variable of 'self-confidence' that conscientiousness was a strong and positive predictor followed by resilience. When all the disposition variables were analysed, 'organisational and planning skills', and 'interpersonal and communication skills' also significantly accounted for variance in the model for self-confidence. The outcome variable 'motivation to teach' was most significantly predicted by 'resilience' and 'conscientiousness'.

References

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