

# THE ROLE OF THE STEM VIDEO GAME CHALLENGE IN THE PIPELINE TO TERTIARY STEM EDUCATION

Jessica L. Holmes<sup>a</sup> and Lisa van Beeck 2<sup>a</sup>

Presenting Author: Jessica L. Holmes (Jessica.Holmes@acer.org)

<sup>a</sup>The Australian Council for Educational Research

**KEYWORDS:** pipeline, video games, rubric

Rapid recent advances in the technology underpinning STEM careers in addition to growth in key STEM sectors, such as the gaming industry, necessitates some, if not commensurate, change in the STEM education pipeline.

The STEM Video Game Challenge (STEM VGC) is a free, annual video game design challenge that aims to scaffold and enrich students and teachers via an authentic and engaging application of STEM principles and practices. As tools to increase teacher and student self-efficacy with technology and improve students' self-concept in STEM disciplines, initiatives such as STEM VGC are positioned to help increase the flow in the talent pipeline into tertiary STEM education and careers.

This presentation: describes the redevelopment and evaluation of the STEM VGC rubric with respect to the position of the challenge and evolving industry requirements, and; identifies key narrowing and leakage points in the pipeline to tertiary STEM education that can be targeted by STEM VGC initiatives.

## REFERENCES

- Edwards, D., Buckley, S., Chiavaroli, N., Rothman, S., & McMillan, J. (2023) The STEM pipeline: pathways and influences on participation and achievement of equity groups. *Journal of Higher Education Policy and Management*, 45(2), 206-222, <https://doi.org/10.1080/1360080X.2023.2180169>
- Backing Victoria's Growing Digital Games Industry (2022), Retrieved May 21, 2023, from <https://www.premier.vic.gov.au/backing-victorias-growing-digital-games-industry>

Proceedings of the Australian Conference on Science and Mathematics Education, The University of Tasmania, 30 August – 1 September 2023, page 37, ISSN 2653-0481.