What Would Make Mathematics More Interesting? Junior Secondary Student Perspectives

<u>Kathryn Holmes</u> Western Sydney University k.holmes@westernsydney.edu.au Matt Thompson
Western Sydney University
matt.thompson@westernsydney.edu.au

Erin Mackenzie
Western Sydney University
e.mackenzie@westernsydney.edu.au

Student engagement is a multi-faceted construct and can be characterised as active involvement in learning, which includes the mental (cognitive), physical (operative) and emotional (affective) aspects of learning (Munns & Martin, 2005). There is evidence to suggest that students begin to disengage with mathematics as they move through secondary school (Collie et al., 2019). A negative educational experience in secondary school mathematics can be a burden throughout life and has the potential to negatively influence the uptake of the subject in the later years of schooling as well as impact on the post-school career choices students make (Gemici et al., 2014; Bourgeois & Boberg, 2016).

This presentation will focus on a section of qualitative data drawn from a larger study that investigated the key factors influencing students' mathematics engagement and participation in NSW secondary government schools. This session will draw on the opinions of 183 students across 41 focus groups in 21 secondary government schools in NSW who were asked 'What would make mathematics more interesting?

Findings suggest that students are looking for more opportunities to engage with mathematics in interactive ways including learning mathematics outside of the classroom. They would like more time spent working in groups and for their teachers to make mathematics relevant to their lives. Students also reported that they would like more time to learn mathematics as well as teachers who cater for their preferred ways of learning, and who would help them to connect more with the subject.

These findings have implications for teachers and schools in relation to how they go about planning for the teaching and learning of mathematics with the aim of increasing student interest, engagement and participation in the subject.

References

- Bourgeois, S., & Boberg, J. (2016). High-achieving, cognitively disengaged middle level mathematics students: A self-determination theory perspective. RMLE Online: *Research in Middle Level Education*, 39(9), 1–18. https://doi.org/10.1080/19404476.2016
- Collie, R. J., Martin, A. J., Bobis, J., Way, J., & Anderson, J. (2019). How students switch on and switch off in mathematics: Exploring patterns and predictors of (dis)engagement across middle school and high school. *Educational Psychology*, *39*(4), 489–509.
- Gemici, S., Bednarz, A., Karmel, T., & Lim, P. (2014). *The factors affecting the educational and occupational aspirations of young Australians*. Adelaide, Australia: NCVER. https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-factors-affecting-the-educational-and-occupational-aspirations-of-young-australians
- Munns, G., & Martin, A. J. (2005). It's all about MeE: A motivation and engagement framework. *Paper presented at the Australian Association for Academic Research focus conference*. Cairns: AARE.

(2024). In J. Višňovská, E. Ross, & S. Getenet (Eds.), Surfing the waves of mathematics education. Proceedings of the 46th annual conference of the Mathematics Education Research Group of Australasia (pp. 581). Gold Coast: MERGA.