# Editorial

**Niamh O'Meara**

University of Limerick

<Niamh.OMeara@ul.ie>

In July 2023 the 30th annual ALM conference was held in the University of Limerick, Ireland. The theme for the conference was Numeracy Theory and Practice in a Changing World. This theme reflected how the mathematical and numeracy demands for adult learners have changed in light of recent developments in many different aspects of our lives, ranging from evolving school curricula, the onset of an unprecedented pandemic, the move towards a technology-drenched society and civil unrest in many countries. In this special edition we aimed to highlight some of the outstanding research that was presented at this conference and which reflects this theme.

Diane Dalby's paper offers an evaluation of a novel initiative designed to enhance numeracy teaching and learning among adult learners. This paper critically evaluates the Whole College Approach programme, introduced to improve student engagement and achievement in mathematics in Further Education (FE) colleges in the UK. This approach involved significant organisational change in FE colleges. For example, it required colleges to form cross-departmental teams, including both mathematics and vocational staff, to collaboratively identify problems and implement context-specific interventions. Evaluation of this approach show that the introduction of this programme facilitated the development of communities of practice in FE settings. These communities of practice, which research has shown to be effective for the professional development of adult numeracy tutors (Prendergast et al., 2025), enhanced collaboration, mutual understanding, and curriculum alignment. While the impact of this programme on student attainment was not directly measured, the paper did show that the programme was capable of effectively fostering sustainable organisational change, highlighting the importance of locally tailored, collaborative strategies in complex educational settings.

Andrijana Burazin, Taras Gula and Miroslav Lovric's paper also reports on an evaluation of the university-level numeracy course "Numbers for Life", a course designed to enhance students' quantitative reasoning and real-world mathematical understanding. Using a range of different research instruments, with two student cohorts, the study found significant gains in students' understanding of numbers, logical reasoning, and multi-step quantitative problem-solving. Notably, those students with weaker numeracy knowledge and skills on entry to the programme showed the greatest improvement. The course's practical focus on topics like financial literacy, probability, and interpreting numerical data was especially valued by students. In concluding the paper the authors reiterate the need for more meaningful numeracy education programmes and suggest that targeted courses like that evaluated here can effectively address numeracy deficiencies, especially for non-STEM students.

Adrian O'Hanlon's paper looks at the issue of mathematics anxiety among adult learners. Due to the consequences associated with mathematics anxiety, including but not limited to, avoidance of the subject and poor performance in both mathematics and numeracy tasks, O'Hanlon seeks to determine the level of mathematics anxiety among adult learners enrolled on a Vocational Training Opportunities Scheme in Ireland. He also looks to determine the role of a teacher in the development of mathematics anxiety among these students. Drawing on data collected through two research instruments, the Mathematics Anxiety Scale and a Mathematics Life story interview, O'Hanlon concluded that mathematics anxiety existed at varying levels among these adult learners. However, there was no significant differences found between the level of mathematics anxiety among these learners and other adult learners in third level education. When considering the role of the teacher in the development of mathematics anxiety some concerning findings emerged. Many learners reported that their mathematics

anxiety stemmed from being publicly embarrassed by mathematics teachers at school, enduring corporal punishment as a result of poor performance in mathematics, and the use of didactic teaching styles. O'Hanlon concludes by calling for a shift away from didactic teaching towards learner-centered, collaborative, and contextually relevant approaches to reduce mathematics anxiety and improve numeracy engagement among adult learners.

Finally, Maria Ryan, a keynote speaker at ALM30, also presents a study that considers mathematics anxiety, and she too utilises Mathematics Life Stories. The sample for her study was set in a university program with 25 mature learners (23 years and older) who studied a service mathematics module. Each subject was asked to recall one significant mathematics experience from their school days that they would characterise as significant for their learning of mathematics. The findings aligned with those reported by Adrian O'Hanlon. For example, Maria found that negative school experiences, including competitive environments, teacher-induced humiliation, and emphasis on speed or rote learning, significantly contributed to lasting mathematics anxiety among students in the study. There was also a gender difference noted with more females reporting mathematics anxiety compared to males. Maria outlines how the presence of such mathematics anxiety for these learners can have long lasting and far reaching consequences for their performance and confidence in mathematics, and in some cases can even limit the career paths available to students. The paper concludes with Maria outlining how Mathematics Life Stories are effective in eliciting learners' previous experiences of learning mathematics and heightening awareness of how mathematics anxiety can be alleviated for learners across the education system.

Overall, the four papers presented here highlight some concerns regarding the numeracy levels of adult learners but each also offer hope and direction. They provide us, the reader, with clear insights into a range of strategies that can be taken to improve numeracy teaching and learning and alleviate mathematics anxiety among adult learners. We hope you enjoy reading.

## References

Prendergast, M., Forster, A., O'Meara, N., O'Sullivan, K., & Faulkner, F. (2025). Numeracy-Meets: an innovative professional development model for adult numeracy practitioners in Ireland. *Irish Educational Studies, 44*(1), 1-21. https://doi.org/10.1080/03323315.2023.2209854