

General Biography

My research identifies with the Cosán learning area of Numeracy, particularly the teaching and learning of mathematics and the existence of mathematics anxiety. There is a perennial discussion around the challenges of mathematics as a subject, particularly during the state examinations process. Influence from national and international discourse on mathematics as a second-level subject has contributed to the reform of the mathematics curriculum over the years, most recently through the Project Mathematics initiative.

Despite the fact that mathematics – both in its own right and coupled under the Science, Technology, Engineering and Mathematics (STEM) umbrella – underpins the development of the economy, there is profuse acknowledgement in society that it is okay to not be good at mathematics. Such acknowledgement detracts from the importance of the subject and does nothing to address the challenges students – and teachers – face with the subject on a day-to-day basis. The linear and iterative nature of the mathematics curriculum means that if a student has difficulty with one part of the syllabus, they may have to continue with their coursework in spite of that deficit of knowledge, thereby potentially adding to their level of difficulty with the subject and heightening their anxiety towards mathematics.

My research into mathematics anxiety and learning difficulties with mathematics in the context of second-level education has highlighted the importance of the role of significant individuals, including parents and the teacher of mathematics who are pivotal in fostering a good attitude towards mathematics. In this regard, the teacher's own anxiety around mathematics can emerge through their approach to teaching, which can be limiting for the students, thereby inhibiting the learning process. An understanding of the challenges students can face with mathematics coupled with interventions to help both students and teachers can contribute positively to the teaching and learning of mathematics, as well as helping to change the perception of mathematics.

I would like to work with teachers of mathematics to investigate their students' mathematics learning difficulties – particularly where students exhibit mathematics anxiety -, as well as collaborating with teachers in identifying and addressing their own anxieties around mathematics. Further, there is merit in looking at a whole-school approach to tackling mathematics anxiety, and in this regard, I believe that such collaboration could spread throughout and beyond the school environment. Consequently, I envisage my contribution to the Researcher-in-Residence Scheme as spanning the following areas:

- the delivery of webinars and workshops around mathematics anxiety for second-level students and teachers;
- working with mathematics teachers who want to engage in their own research, for example research on their own practice, and the investigation of the impact of interventions on practice and on student learning;
- involvement in collaborative events such as teach-meet experiences pertaining to the themes of mathematics learning difficulties and mathematics anxiety, both with mathematics teachers within a school as well as with clusters of schools;
- working with teachers, students, parents, and other collaborators in facilitating a whole-school approach to fostering an emphasis on mathematics confidence instead of mathematics anxiety.