

Supporting the Development of Language and Collaborative Competencies for International Students in 1st Year Mathematics

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Research shows that both language and the unfamiliar expectations of a new educational context can be challenging for international students in first-year mathematics. Barton et al. (2005) showed how some multilingual learners in undergraduate mathematics courses at the University of Auckland were disadvantaged by their levels of English proficiency. They report that struggles with language in first-year mathematics are often masked by high levels of prior knowledge and the low language requirements of first-year mathematics courses. However, difficulties might surface at a later stage when mathematical knowledge needs to be extended to cope with the requirements of second- and third-year courses (Barton et al., 2005). My own doctoral research shows that some first-year international students might be constrained from accessing course resources such as spoken lecture content, one-to-one help from lecturers or tutors, and collaborative peer discussions in English. I show how both language proficiency and cultural interpretations of the student role can create barriers for international students when studying mathematics at a foreign host university (Locke et al., 2023a, 2023c, 2023b).

Literature urges universities to meet the learning needs of their international students through a range of different strategies. Barton et al. (2005) suggest that mathematics departments implement strategies such as staff professional development, first language tutorials and resources, and specific mathematical English courses. Andrade (2010) supports the idea of linking courses with language support to enhance subject specific vocabulary. In this short communication I will discuss some ideas for a series of *English for Mathematics* workshops aimed to support the development of a more comprehensive mathematical register and facilitate collaborative practices for first-year international students.

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