

Use of Real-World Contexts in Instructional Materials Designed by Pre-University Mathematics Teachers

ABSTRACT

Pre-university education in Singapore serves as a bridge between secondary and university education. Despite its importance in the Singapore education system, few studies have been conducted on Singapore pre-university mathematics. We also notice that problems in real-world contexts have been increasingly emphasized in the Singapore mathematics curriculum. In this paper, we study the infusion of real-world contexts in the design of instructional materials in a typical pre-university institution, with a focus on the topic of vectors. The real-world contexts used in the instructional materials are categorized into neutral contexts or real-life experiences, where each of these categories has their benefits. These include the potential to raise students' awareness that mathematics can be used to solve real-world problems and explain real-world phenomena. Their alignment to the Singapore mathematics syllabus and 21st Century Competencies is also discussed.