

ABSTRACT

This qualitative research study is an investigation into the mathematical experience of Cantonese and Mandarin English Language Learners' (ELLs) in the British Columbia school system. Statistics Canada shows that the Chinese immigrant population in BC has grown rapidly during last ten years (Statistics Canada, 2012).

Mathematics may present a challenge to different learners. Tanoh (2013) describes mathematics itself as a foreign language. It involves accurate and clearheaded problem solving skills that are very different from other subjects. In addition, mathematics involves a sequential learning pattern. Without adequate support in school mathematics classes, ELLs could suffer from mathematics anxiety and math avoidance. Scarpello (2010) also states that mathematics anxiety appears as a built in fear factor due to a lack of confidence in the students' ability to do the mathematics. However, for ELLs, mathematics is an additional problem due to its language-associated learning difficulties (Lee & Jung, 2004).

The researcher used a semi-structured interview format with twelve Cantonese and Mandarin ELL students, eleven parents or guardians and six mathematics teachers in a school in the Lower Mainland of British Columbia. These ELL students and their mathematics teachers were asked about their experiences and the amount of teachers' support in their mathematics classes, particularly with regard to mathematics word problems. Their parents or guardians were asked about their concerns regarding their children's mathematics performance as well so that the researcher could obtain a more accurate picture of the anxiety, difficulties, and frustrations Mandarin and Cantonese ELL students face in mainstream mathematics classes. It is anticipated that the findings of this study can further an awareness in teachers, parents, and learners of the rising mathematics learning needs of Cantonese and Mandarin ELLs.

Keywords: mathematics experiences, mathematics perceptions, English Language Learners, word problems, language barrier, instructional medium, Dual Language Program, Response to Intervention (RTI), Universal Design of Learning (UDL), qualitative research, In Vivo Coding, Pattern Coding, culture