# CHALLENGES FACING PUPILS WITH TOTAL BLINDNESS IN LEARNING MATHEMATICAL CONCEPTS: A CASE STUDY OF LIKONI PRIMARY SCHOOL FOR THE BLIND MOMBASA COUNTY, KENYA

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## ABSTRACT

Investigating the challenges faced by pupils with total blindness in learning mathematics at Likoni School for the Blind in Mombasa County, Kenya was the hall mark of this study. Mathematics is a field which has been considered beyond the capacity of the blind to master. Mathematics cultivates thinking and reasoning skills. Objectives of the study were to find out if there are adequate mathematics learning resources available to be used by learners with visual impairment, Investigate challenges faced by learners with visual impairment in learning mathematics, Investigate whether the learners face challenges in understanding mathematical concepts and Suggest intervention strategies to improve learning for learners with visual impairment. Purposive sampling technique was used as a sampling strategy which targeted only learners with total blindness. A sample size of 25 totally blind pupils was selected from classes 4, 5, 6, 7 and 8. Questionnaires and learning Resources check lists were the primary data gathering instruments which were carefully designed to provide adequate coverage for the research. The instruments were then piloted with the aim of identifying ambiguous items for clarity. Data were collected and analyzed using both qualitative and quantitative research method. The qualitative analysis was used to explain the details of the findings and the quantitative techniques were used to illustrate findings through graphs, pie charts and tables. The study revealed that learners with total blindness need a lot of memorization to study procedures rather than formula or methods in a mathematical concepts lesson. The major findings were that there was lack of flexibility in problem solving and in calculations of mathematical tasks. The study further found that Blind pupils were not exposed to the use and application of Braille campuses and other Geometrical drawing tools. The study concludes that Blind pupils should have an exposure in the use and application of mathematical tools at an early stage. The study further suggests that Braille notation challenges should be overcome by exposing learners to Geometrical measurements and construction using Braille mathematical tools at an early stage.