

**AN INVESTIGATION OF THE
ROLE OF VISUALIZATION IN DATA HANDLING IN
GRADE 9 WITHIN A PROBLEM-CENTRED CONTEXT**

by

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Declaration

I declare that

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is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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SUMMARY

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Abstract

This study provides a qualitative examination of the role of visualization through an understanding of the thought processes that occur during visualization when Grade 9 learners engage in data handling and spatial tasks. Data were gathered in a problem-centred context from learners' written responses in order to determine the students' visuality. Visuality is defined as how often learners used visualization. In addition interviews were conducted with the learners who described the thought processes that they engaged in during visualization while involved in problem solving.

The role of visualization was highlighted through the processes that learners described during the interviews. The tasks which provided manipulative materials helped learners create visual images which promoted the process of visualization. Certain recommendations were made. Knowledge of the role of visualization enables the educator to encourage the use of visualization during the teaching of mathematics.

Key words:

Visualization; Visual Imagery; Visuality; Spatial ability; Problem-centred context; Data handling.

