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**The Efficacy of Using a Three Dimensional,
Interactive Model to Teach Environmental Concepts
to Children with a Visual Impairment**

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fulfilment of the requirements for
the Degree of Master of Philosophy
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Abstract

Previous research has identified that children with a visual impairment have difficulty in acquiring independent travel skills. In the past, the research has been concentrated on body and spatial concepts with a more recent emphasis on spatial representation and the use of tactile maps. However, very little attention has been paid to three dimensional models or the teaching of environmental concepts. Consequently, a study was undertaken to see if the use of a three dimensional interactive model was efficient at teaching environmental concepts to four visually impaired children. The study utilised a changing criterion design with an environmental probe to assess the outcome. It was found that the children learnt the concepts taught and were able to transfer knowledge gained on the model to the real environment. In line with other research findings, two children, the youngest and the one with the greatest degree of vision impairment, were found to be unable to plan and execute routes in the real environment. This may be explained by their lack of understanding of Euclidean concepts. The model was also found to have a number of significant advantages over tactile maps as a tool for introducing environmental concepts. Some areas for further investigation are identified.

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