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Learning about evolution : the influence of an educational visit and intervention on teachers' knowledge and attitudes.

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Declaration

I declare that this research report is my own unaided work. It is being submitted for the first time for the degree of Masters of Science by coursework at the University of Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other University.

Matome David Mokgobanama May 2011

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Abstract

The focus of my study is on how an informal science institution such as Maropeng Visitors Centre may influence teachers' knowledge about evolution and attitudes towards the teaching of evolution. This study was conducted because the South African government has introduced the topic of evolution in the FET (Grade 10 to 12) Life Sciences curriculum. The introduction of this topic is perceived as a challenge since the majority of Life Sciences teachers were not well trained on how to teach the new curriculum and in particular the topic of evolution (Ngxola and Sanders, 2008; Stears, 2006). To ensure that the Learning Outcomes mentioned in the policy guideline are achieved, teachers are encouraged to use informal science institutions (Nduna-Watson, 2007). There are several science centres and museums that are visited by thousands of teachers and learners in South Africa and this includes Maropeng Visitors Centre, Sterkfontein Cave, Sci-Bono Discovery Centre, Transvaal Museum, the National History Museum and others. Two theoretical frameworks were used as a guide in the development of the questionnaires and personal meaning mapping. The two theories are constructivism and attitudes towards science. Data was collected from the Grade 11 and 12 Life Sciences teachers who attended workshops at Maropeng Visitors Centre. The results revealed that some teachers showed knowledge gains in aspects of evolution and their attitudes towards teaching evolution have changed to positive irrespective of their personal beliefs. However, there were other misconceptions that were not changed by the visit. These included views about the origin or life which related to creationist accounts, and interpretations of the phrase "survival of the fittest". This study recommends an intensive content-based workshop is essential before teachers visit the museum or informal science institutions.

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