PERCEPTIONS AND KNOWLEDGE REGARDING INDIGENOUS KNOWLEDGE AND ENVIRONMENTAL EDUCATION IN THE NATURAL SCIENCE CURRICULUM

by

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DECLARATION

“I declare that Perceptions and Knowledge Regarding Indigenous Knowledge and Environmental Education in the Natural Science Curriculum 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.”

ABSTRACT

Human activities that involve interactions amongst three players i.e. nature, humans and technology, continue to impact negatively on the Earth's biosphere.
The impact is tremendous: consumption of resources at an unsustainable level leading to rapid loss of natural resources and biodiversity. The plea to reverse this negative trend is as valid now as it were many years ago.

While some progress has been made to develop strategies to wisely manage and protect the Earth's resources, the state of the environment is still fragile. Strategies are far from satisfactory: hence the grounds for a new commitment in a manner best suited to a country's needs and resources. In recent years, research in indigenous knowledge systems has been pursued in an attempt to develop a deeper understanding of its complex linkages with the environment. Incorporating some of these linkages in the science curricula provides opportunities for learners to make informed choices to address individual and society's needs by extracting relevant elements from Western science and indigenous knowledge systems.

This research focuses on the use of indigenous knowledge in science education offered to grade eight and nine learners in South African schools. As part of this education, science curricula, teaching methodologies and resources therefore should be developed in response to the changing needs of learners and their communities.

A close look at the natural science learning area of Curriculum 2005 shows that the South African curriculum developers have under-used indigenous knowledge in the teaching and learning of science at school level. The conceptualization of an inclusive and just science education has been evaded.

Perceptions elicited from a small group of academics, well versed in IK, indicate that the majority of South African science teachers will embrace the inclusion of indigenous knowledge in the natural science learning area but will require significant assistance from the Department of Education. The key to deal with this daunting task is for the relevant role players to establish partnerships with the knowers and holders of indigenous knowledge and to operate in a neutral, noble and altruistic manner and that in itself in the present context is highly problematic.

Key terms

Western science; Indigenous Knowledge; Environment; Curriculum 2005; Outcomes Based Education; Natural Sciences Learning Area; Teaching Methodologies and Resources; South African Schools; Inclusive and Just Science Education.

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LIST OF ACRONYMS AND ABBREVIATIONS

ABET	-	Adult Basic Education and Training
Bed	-	Bachelor of Education
BSc	-	Bachelor of Science
BSc Hons.	-	Bachelor of Science (Honours)
C2005	-	Curriculum 2005
DoE	-	Department of Education
DoH	-	Department of Health
EMS	-	Economic and Management Sciences
FET	-	Further Education and Training
GET	-	General Education and Training
HSS	-	Human and Social Science
ICSU	-	International Council for Science
IK	-	Indigenous Knowledge
IKS	-	Indigenous Knowledge Systems
KZN	-	KwaZulu-Natal
LLC	-	Language, Literacy and Communication
MBA	-	Master of Business Administration
MEd	-	Master of Education
MLMMS	-	Mathematical Literacy, Mathematics and Mathematical Science
MSc	-	Master of Science
NGO	-	Non Government Organization
NQF	-	National Qualification Framework

NRF	-	National Research Foundation
OBE	-	Outcomes Based Education
RDP	-	Reconstruction and Development Programme
SAQA	-	South African Qualification Authority
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
USA	-	United States of America
USAID	-	United States Aid for International Development
WHO	-	World Health Organization
WK	-	Western Knowledge