

Concept development for facilitating the health and safety
efficacy of South African mine workers

by

Gwyneth Tuchten

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Supervised by Professor Mokubung Nkomo

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ABSTRACT

The aim of this research is to inform conceptual approaches to health and safety (H&S) training for mineworkers in South Africa. The study focuses specifically on those mineworkers who have the least formal education or training, termed elementary workers (unskilled) and machinery operators and drivers (semi-skilled). It is an integrative literature review of sources drawn from mine health and safety in South Africa; self-efficacy; adult education and training (AET); education and training in mining; and relevant health promotion studies. The sources selected refer to work in the Southern African mine H&S context, or comparable situations. Compelling ideas and formulations for training are suggested in the literature of the different disciplines reviewed.

A core concept considered is self-efficacy and the concept has substantial support in the literature. Both the term and concept of ‘self-efficacy’ have been used in South African and mining studies, but often without proper consideration of the sources of self-efficacy and its task- and context-specificity.

The review reveals a lack of evidence of effective advocacy and training around generic mining occupational hazards, such as lung disease. H&S training is most evidently linked to operator training, which is aligned with unit-standards. However, substantial numbers of mineworkers lack adequate formal education for such training programmes, or the informal skills to be included via recognition of prior learning (RPL) processes. The proposed role of H&S representatives appears demanding, but the associated skills training outlined in public unit standards, lacks essential elements.

The findings identify key considerations for an underpinning approach to H&S training for elementary mineworkers. These are: new learning required; risk perception and management; existing and associated logics; team ethos; maintaining new learning and practice; and a dialogic aspect to programmes. Additional findings suggest that the convergent effects of different policies result in the training of the least educated mineworkers being marginalised. The study concludes with six propositions that relate to the research and development of H&S training for mineworkers, public evidence of training, policy effects and the predicament of mineworkers who lack formal education.

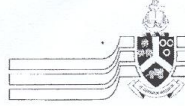
KEY WORDS

Adult education
Adult basic education and training (ABET)
Adult learner
Health and safety (H&S)
Mineworker
Mining
Policy
Self-efficacy
South Africa
Training

ACRONYMS AND ABBREVIATIONS

ABET	Adult basic education and training
AET	Adult education and training
ANC	African National Congress
ASM	Artisanal and small mines
BEE	Black economic empowerment
BBS	Behaviour-based safety
CAL	Computer-aided learning
CEO	Chief executive officer
COM	Chamber of Mines
COSATU	Congress of South African Trade Unions
DME	Department of Minerals and Energy
DMR	Department of Minerals Resources
DOE	Department of Education
DHET	Department of Higher Education and Training
GEAR	Growth, Employment and Redistribution Strategy
GDP	Gross Domestic Product (GDP)
H&S	Health and safety
HEARD	Health Economics and HIV Aids Research Division
HIRA	Hazard identification and risk assessment
HIV	Human immunodeficiency virus
HRD	Human resource development
HSRC	Human Sciences Research Council
MHSA	Mine Health and Safety Act
MHSC	Mine Health and Safety Council
MHSI	Mine Health and Safety Inspectorate
MQA	Mining Qualifications Authority
ILO	International Labour Organisation
IOM	Internal Organisation for Migration

MPRDA	Minerals and Petroleum Resources Development
NEPI	National Education Policy Investigation
NGO	Non-governmental organization
NIHL	Noise-induced hearing loss
NIOH	National Institute for Occupational Health
NLC	National Literacy Cooperation
NQF	National Qualifications Framework
NSB	National standards body
NSDS	National Skills Development Strategy
OBE	Outcomes-based education
OBET	Outcomes-based education and training
ODMWA	Occupational Diseases in Mines and Works Act
OHS	Occupational health and safety
OHSA	Occupational Health and Safety Act
PAC	Pan African Congress
PPE	Personal protective equipment
R&D	Research and development
RDP	Reconstruction and Development Programme
RPL	Recognition of prior learning
SACP	South African Communist Party
SAIRR	South African Institute of Race Relations
SANLI	South African National Literacy Initiative
SAQA	South African Qualifications Authority
SETA	Sector education and training authority
SGB	Standards generating body
SIMRAC	Safety in Mines Research Advisory Committee
SR	Severity rate
TB	Tuberculosis
TWA	Time-weighted average
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USAID	United States Agency for International Development
VR	Virtual-reality



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Gwyneth Myfanwy Tuchten

Education Management and Policy Studies

29 August 2011

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South African Qualifications Authority, Registered Unit Standards Numbers: 259639, 259622, 244383.

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