

**Utilization of Information and Communication Technology (ICT) for education in
South Africa: An examination of the World Links for Development (WORLD)
programme**

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DECLARATION

I, Hillar Addo, hereby declare that this thesis is a product of my own work, unless stated otherwise. I also declare that this thesis has not been submitted at any other university for the purpose of a degree.

Candidate:

Signed

Supervisor:

Signed

DEDICATION

This work is dedicated to my wife, Emily, and children, Mawuli, Edem and Kafui, for their understanding and support during the long and frequent absence of Pappa.

SUMMARY

South Africa was a recipient of the World Bank's World Links for Development (WorLD) pilot programme (1997-2001) as part of the bank's education projects in developing countries. The project sought to assist developing countries integrate information and communication technology (ICT) into their education systems and develop their youth to operate in a globalizing knowledge economy.

This study investigated concerns of WorLD project teachers in KwaZulu-Natal regarding the lack of achievement in project outcomes, and hence ICT impact in project schools in South Africa.

It was established by the study that ICT was not only an educational tool but also a driving mechanism for socio-economic development in a globalizing knowledge economy.

The study found that though educators in the WorLD schools in South Africa were adequately trained in computer application programmes and collaborative school projects, learners were not provided with such skills due to educators not having time to do so. Lack of technical training also inhibited computer access, hence the project from proceeding to the levels of integrating ICT into the curriculum.

This study established that, WorLD school project educators in South Africa were not familiar with, trained in and do not use most teaching methods that support integration of ICT in education. A preponderance of a *chalk and talk* pedagogy existed as the popular model in rural South African schools where this study was conducted.

The study found a strong correlation between ICT and other information resources for teaching and learning. In spite of this, the majority of WorLD schools in South Africa during the project phase had less than the minimum requirements of the pre-requisite information resources, namely computer networked laboratories, Internet access, libraries, media teachers and multimedia centres, to effect an ICT education. Marginalization of the school librarian created difficulties in the integration of ICTs into the curriculum in WorLD schools.

There was hardly time for educators to deliver on WorLD projects, even though teachers had acquired the skills and confidence to do so. Where educators braved the situation, project activities had a negative impact on their normal teaching duties.

The majority of WorLD learners could read, that is access information from books, and write without assistance. Reading problems were acute where they existed and only a few learners could read and access information from the Internet without assistance.

Though many WorLD educators and learners had used a multimedia system and are positive that the tool can assist in ICT education, none of the schools had the minimum ICT requirements to utilise such a system.

A positive spin-off of the project was that educators and learners in WorLD schools have been equipped with new skills and modern insights into education. Learners have been exposed to new learning methods and have been equipped with skills which they will utilize in work situations and for further education. WorLD educators have also been equipped with modern teaching methods and tools.

A model was proposed as a basis of evaluating the WorLD project outcomes and impact. This could be used in evaluating other ICT in education or e-learning projects in Africa.

Keywords: Computer-based pedagogy; disadvantaged communities; education; evaluation; ICT; information and communication technology; project; technology-enhanced learning; E-learning; World links for development (WorLD) programme.

ABSTRACT

South Africa was a recipient of the World Bank's World Links for Development (WorLD) pilot programme (1997-2001) which is part of the bank's educational projects in developing countries.

In 2000, at the end of the pilot phase of the project, some teachers in a number of WorLD schools in KwaZulu-Natal, one of the provinces in which the projects were sited, expressed concern at the lack of achievement in project outcomes, and hence ICT impact in their schools.

This study investigated whether concerns of WorLD project teachers in KwaZulu-Natal prevailed in other WorLD project schools in South Africa or not. An evaluative research method was used to investigate benchmarks developed as possible indicators to achieve project objectives.

The study found that despite the key role of ICT in improving the quality and delivery of education globally, imperatives to achieving educational outcomes, such as access to computers and Internet networking, training of educators and learners, and a supportive working environment were still unavailable to education role players in disadvantaged community schools in South Africa.

The study concluded that educators in WorLD schools have been equipped with new skills and modern insights into education. Learners have been exposed to new learning methods and have been equipped with skills which they will utilize in work situations and for further education. However the project failed to achieve a great proportion of its outcomes and impact.

The study recommended that the issues that have impeded achieving the objectives of the WorLD project be addressed through a national ICT education policy to achieve future outcomes and impact.

A model was proposed as a basis of evaluating the WorLD project outcomes and impact, which could be used for other ICT education projects in South Africa and in other African communities on the continent.

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List of Acronyms and abbreviations

CAI	Computer Assisted Instruction
CAL	Computer Assisted Learning
CD ROM	Compact Disk Read Only Memory
CK: P	Common Knowledge Project in Pittsburg
DOS	Disk operating systems
Etc	<i>Et Cetera</i> (and so forth)
E.g.	Example
GII	Global Information Infrastructure
ICT	Information and Communication Technology
IT	Information Technology
NCET	National Council for Educational Technology
NEPI	National Educational Policy Investigation
NGOs	Non Governmental organizations
OSF	Open Society Foundation
TELI	Technology-Enhanced learning Investigation
WorLD	World links for Development Programme
SACat	South African Catalogue of thesis and Dissertations
SAIDE	South African Institute for Distance Education
SchoolNetSA	SchoolNet South Africa
SRI	Standard Research International
TV	Television
UCLA	University of California Los Angeles
VCR	Video Cassette Recorder
VGA	Video Graphics Array
VoIP	Voice over Internet Protocol
Windows NT	Windows New Technology
WWW	World Wide Web