

**AN INVESTIGATION OF THE EFFECTIVE USE OF INFORMATION AND
COMMUNICATION TECHNOLOGIES (ICT) FOR PRIMARY SCHOOL
TEACHERS IN THE TRANSFER OF KNOWLEDGE.**

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Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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Signature: N.Klaas Date: 24th January 2006



Abstract

We are in the era where Information and Communication Technologies (ICTs) are increasingly becoming as common as desks and chalkboard in our classrooms. Government, students, parents and the community at large are now expecting ICTs to be integrated in the school curriculum and to be used as tools of instruction. The driving force behind this global revolution is the changing nature of work, the realities of the knowledge era, new global partnerships and the need for equal distribution of educational opportunities. The main challenge for the government officials, stakeholders and teachers is how these ICTs can be integrated into instructional and institutional practices to maximize student and teacher utilization.

This research paper highlights the challenges and potential benefits that ICT presents to the Science class between 11- to 13 year olds and how the learners and teachers interact. The focus will be based on the findings of the author's work with students and teachers who were part of the Digital Education Enhancement Project (DEEP) that integrated the use of ICT in teaching and learning. The DEEP is a partnership between Open University (UK), Fort Hare (South Africa) and Programme, Planning and Monitoring Unit (PPMU) Egypt. DEEP has come as a panacea to a lack of technology at Butterworth and 11 other schools in the Eastern Cape Province, in the sense that it provided the digital technologies that will be discussed in this research study. The technologies used include laptops, digital cameras, iPAQs, jornadas (Palm tops), scanners, printers and video cameras.

According to some authors, a good school is constantly on the search for better ways of doing things. Others refer to these schools as "moving schools". Butterworth High School meets both these demands. The existence of DEEP has significantly enhanced learning and teaching processes, personal development, transformed classroom management, and thereby revolutionized the educational experience.

Furthermore, this paper examine the effectiveness and relevancy of DEEP in light of the recently accomplished *phase one* in relation to how information and communication technology (ICT) can change the way we represent, communicate and construct knowledge. This research paper shows how the new ICTs, when effectively planned and designed can positively impact the teaching and learning of Science. It also concludes by making recommendations regarding the necessary training which should be determined by the purpose and context of use.

The paper proposes that integration of ICT should be taken seriously if we want to transform our education system. This research paper argues that even those in the most remote areas can benefit from the potential of information and communication technology.



Opsomming

Ons is in die tydvak waarin Inligtings- en Kommunikasietegnologieë (IKT's) toenemend so algemeen soos banke en skryfborde in ons klaskamers raak. Die regering, studente, ouers en die gemeenskap in die breë verwag nou dat IKT's in die skoolleerplan geïntegreer sal wees en gebruik sal word as onderrighulpmiddels. Die dryfkrag agter hierdie wêreldwye rewolusie is die veranderende aard van werk, die realiteite van die kennisera, nuwe globale vennootskappe en die behoefte aan gelyke verspreiding van onderwysgeleenthede. Die vernaamste uitdaging vir regeringsamptenare, belanghebbendes en onderwysers is hoe hierdie IKT's geïntegreer kan word in die onderrig- en institusionele praktyke ten einde die benutting deur studente en onderwysers te maksimaliseer.

Hierdie navorsingsverslag beklemtoon die uitdagings en potensiële voordele wat IKT bied aan die Wetenskapklas vir 11-13 jariges, en hoe interaksie tussen die onderwysers en leerlinge plaasvind. Die fokus sal wees op die outeur se bevindings oor werk met studente en onderwysers wat deelgeneem het aan die Digital Education Enhancement Project (DEEP), wat die gebruik van IKT in onderrig en leer geïntegreer het. DEEP is 'n vennootskap tussen die Open University (VK), Fort Hare (Suid-Afrika) en die Programme, Planning and Monitoring Unit (PPMU), Egipte. DEEP het gekom as 'n panasee vir die gebrek aan tegnologie by Butterworth en 11 ander skole in die Oos-Kaap, in die opsig dat dit die digitale tegnologieë verskaf het wat in hierdie navorsingstuk bespreek word. Die tegnologieë sluit in skootrekenaars, digitale kameras, iPAQs, jornadas (Palm tops), skandeerders, drukkers en videokameras.

Volgens sommige skrywers is 'n goeie skool voortdurend op soek na beter maniere om dinge te doen. Ander verwys na sulke skole as "moving schools". Die Hoërskool Butterworth voldoen aan beide hierdie vereistes. Die bestaan van DEEP het leer- en onderrigprosesse en persoonlike ontwikkeling betekenisvol

verryk en klaskamerbestuur getransformeer, en daardeur 'n rewolusie teweegbring in die onderwyservaring.

Verder ondersoek hierdie werkstuk die doeltreffendheid en relevantheid van DEEP in die lig van die onlangs voltooide *fase een*, met betrekking tot hoe IKT die wyse waarop ons kennis voorstel, kommunikeer en konstrueer, kan verander. Die werkstuk toon hoe die nuwe IKT's, indien doeltreffend beplan en ontwerp, positief kan inwerk op die onderrig en leer van Wetenskap. Dit maak ook gevolgtrekkings oor die nodige opleiding wat bepaal moet word deur die doel en konteks van gebruik van die IKT's.

Die werkstuk stel voor dat erns gemaak moet word met die integrasie van IKT indien ons die onderwysstelsel wil transformeer. Daar word geargumenteer dat selfs diegene in die mees afgeleë gebiede kan voordeel trek uit die potensiaal van inligtings- en kommunikasietegnologie.



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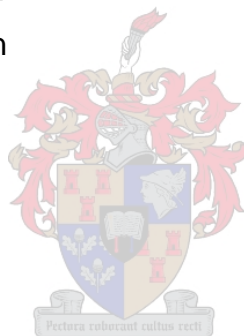
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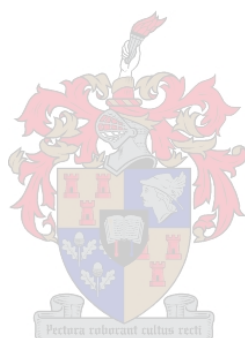
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