Science Education Policy Minimum Standards and Secondary School Students' Performance in O' level Physics in Butaleja District, Uganda

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Declaration

I, Godfrey Kintu, (BU/GS20/EDM /7) certify that this dissertation titled *"science education policy minimum standards and secondary school students' performance in O' level physics in Butaleja District, Uganda"* is my novel work and has not ever been submitted to any other higher learning institution for an award. Where other sources were used, they were appropriately acknowledged.

Signature ..... Date..25/5/2023.....

Godfrey Kintu

Approval

This research dissertation by titled "Science education policy minimum standards and secondary school students' performance in O' level physics. A case of Butaleja District, Uganda" has been written by Kintu Godfrey under our guidance is presented for examination with our approval.

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Dedication

I dedicate this dissertation to my family and friends.

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List of Acronyms

ANOVA	:	Analysis of Variance
CPDs	:	Continuous Professional Development
CVI	:	Content Validity Index
DEO	:	District Education Officer
DIS	:	District Inspector of Schools
EFA	:	Education for all
MoES	:	Ministry of Education and Sports
NER	:	Net Enrolment Ration
SDG	:	Sustainable Development Goals
SESEMAT	:	Secondary Science and Mathematics Teachers
SPSS	:	Statistical Package for Social Sciences
UCE	:	Uganda Certificate of Education
UNEB	:	Uganda National Examination Board
USE	:	Universal Secondary Education

Abstract

The study investigated the relationship between Science Education Policy Minimum Standards and secondary school students' performance in O-level Physics in Butaleja District - Uganda. Explicitly, the relationship between science teachers' qualifications; science laboratories and equipment availability, science reading material availability and secondary school students' Performance in O- level Physics in Butaleja District was sought by this study. The continuous poor performance of O' level secondary school students in Physics in UCE exams prompted this study. This study adopted a sequential explanatory research design, drawing on quantitative as well as qualitative research approaches with a sample size of 357 (including 72 teachers,278 students, 5 head teachers, 1 DIS and 1DEO) respondents in Butaleja District, although 357 responses were obtained. The questionnaire reliability and validity were established using the Cronbach Alpha coefficient ($\alpha = 0.831$) and the CVI (84.3%) respectively. Simple Random Sampling and Census Inquiry techniques were adopted for the study. Instrument for Data collection adopted were the questionnaire and the interview guides. Data were analyzed using SPSS software version 23 with a focus on descriptive statistics, Pearson correlation and Multiple Regression analyses. Qualitative data were analyzed using the verbatim method where direct quotes relevant to study objectives were captured from data set. Pearson's correlation coefficient was applied to measure whether there was a statistically significant relationship between Science Education Policy Minimum Standards and secondary school students' performance in O-level Physics in Butaleja District. Specifically, findings revealed: i) a positive, statistically significant but weak relationship between Science teachers' qualifications and student performance in O' level Physics ($r= 0.233^{**}$ $p > 0.05$), ii) a statistically significant but strong relationship between science laboratories and equipment availability and student performance in O' level Physics ($r= 0.566^{**}$ $p < 0.05$), and iii) a statistically significant but strong relationship between science reading materials availability and student performance in O' level Physics ($r= 0.514^{**}$ $p < 0.05$) in Butaleja District. The researcher concluded that: recruiting qualified science teachers; constructing enough and well-stocked science laboratories with technicians to support practical lessons; availability of science reading materials and conduct of regular science workshops are critical steps to improve secondary school students' performance in O' level Physics. The study recommends that MoES should ensure that science teachers have a strong academic background to improve students' learning outcomes in Physics. The Butaleja District Local Government should, among others, encourage science teachers to participate in CPDs to enhance their teaching skills and knowledge.

Chapter One

Introduction

1.0 Overview

In Uganda today, a critical problem facing it is that much as hard work and resources have been dedicated to science education (primary, secondary and vocational), the predicted results have not been achieved (ESSP,2002 -2015). Therefore, this study examined the relationship between science education policy minimum standards and secondary school students' performance in O'level Physics in Butaleja District. This chapter presents the background of the study, the statement of the problem, the purpose of the study, the objectives of the study, hypotheses, the scope of the study, significance, justification, and terms and concepts used in the study.

1.1 Background to the study

1.1.1 Historical Background

Students' performance has been an issue of concern at school from the introduction of modern education. UNESCO (2000) states that numerous countries in the biosphere understand that students are at the center of progress in education and that were decent performance lacks, education innovations in their totality are destined to failure. One of the most important rights of individuals is education. This is clearly pointed out by Article 26 of the "Universal Declaration of Human Rights (UDHR)" which was assumed and adopted by the "United Nations Education General Assembly". Education ought to be accessible to all equally based on merit and the choice of the kind of education wished for children comes as a parent's prior right.

Primary school enrolment in sub-Saharan Africa spiraled to 688 from 647 million world over in the period of 1999 to 2005, increased by 36 per cent and 22 per cent in South and West

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