IMPACT OF CURRICULUM DIGITAL CONTENT ON BIOLOGY INSTRUCTIONAL PROCESS AMONG SECONDARY SCHOOLS IN NAIROBI COUNTY, KENYA

BY

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DECLARATION

This research proposal is my original work and has not been presented for a degree award in any other university.

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We confirm that the work reported in this proposal was carried out by the candidate under our supervision.

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ABSTRACT

The quality of curriculum and curriculum support materials used by the teachers and learners will tend to have a great impact on the quality of education that will be delivered. For many years, educational materials have mostly been static text with pictures printed on paper and in books. These kinds of materials have failed to provide appropriate learning environment for learners who are technologically savvy and who expect interactive engaging learning experiences. In recent years, there has been rapid expansion in digital content development and access in schools. There have been many initiatives geared towards development and provision of digital content to schools in Kenya. However, little has been done to ensure that learners and teachers actually utilize the digital content in the instructional process. This study will therefore investigate how learners and teachers access and utilize digital content and its impact on syllabus coverage, learners’ assessment as well as the test scores in Biology. In addition, the process of digital content development will be studied and the content available in secondary schools analyzed in terms of their multimedia components and user interfaces. Consequently, the study will come up with a model that can guide development of appropriate digital content for secondary school Biology. It will be guided by six specific objectives. These include; to investigate secondary school teachers and learners access and utilization of Biology digital content, to analyze the multimedia components in the Biology digital content in secondary schools, to analyze the user interfaces in secondary school Biology digital content, to find out whether multimedia components and user interfaces in Biology digital content affect its utilization by secondary school teachers and learners, to find out if utilization of Biology digital content in secondary schools has any impact on syllabus coverage, assessment and learners’ test scores and to examine the digital content development process and come up with a model that will guide the development of appropriate digital content for secondary school Biology. Six research questions which are derived from the specific objectives will guide the study. A descriptive survey design will be used for the study which will involve ESP-ICT phase I secondary schools and digital content developers in Nairobi County. For collection of data, six instruments will be used. These include; teachers’ questionnaire, learners’ focus group guide, ICT’s inventory, digital content analysis sheet, documents analysis sheet and developers interview schedule. The collected data will be analyzed using both descriptive and inferential statistics and presented in form of notes, tables, and graphics. Statistical package for social sciences (SPSS) version 20.0 will facilitate the process of data analysis. The findings will be discussed then conclusions and recommendations made.
TABLE OF CONTENTS

DECLARATION ................................................................. ii
ABSTRACT ..................................................................... iii
TABLE OF CONTENTS .................................................. iv
LIST OF TABLES ............................................................ vi
LIST OF FIGURES ............................................................... vii
LIST OF ABBREVIATIONS AND ACRONYMS ....................... viii

CHAPTER ONE : INTRODUCTION ........................................... 1
  1.1 Background information ........................................... 1
  1.2 Statement of the problem ........................................... 9
  1.3 Study objectives ...................................................... 12
  1.4 Research questions .................................................. 13
  1.5 Significance of the study ............................................ 13
  1.6 Scope and limitations ............................................... 15
  1.7 Basic assumptions of the study .................................. 16
  1.8 Theoretical frame work ............................................. 17
  1.9 Conceptual frame work ............................................. 19
  1.10 Definition of terms .................................................. 22

CHAPTER TWO : LITERATURE REVIEW ............................... 23
  2.1 Introduction .......................................................... 23
  2.2 Biology education ................................................... 23
    2.2.1 Aims and objectives of secondary school Biology education ... 25
    2.2.2 Secondary school Biology content overview .................... 26
    2.2.3 Biology teaching methods, resources and assessment .......... 26
  2.3 Digital content ....................................................... 28
    2.3.1 Formats, components and user interfaces of digital content ... 29
    2.3.2 Importance of digital content ................................... 31
    2.3.3 The place of digital content in the world, Africa and Kenya .... 32
  2.4 The ESP-ICT Programme in Kenya ............................... 35
  2.5 Summary of literature review findings .......................... 36

CHAPTER THREE : RESEARCH METHODOLOGY ...................... 41
  3.1 Introduction .......................................................... 41
  3.2 Research design ..................................................... 41
  3.3 Location of the study .............................................. 44
  3.4 Target population .................................................... 44
  3.5 The sampling procedures and sample size ....................... 45
  3.6 Research instruments ............................................... 47
    3.6.1 Teachers questionnaire ......................................... 47
    3.6.2 Learners focus group guide ..................................... 48
    3.6.3 ICTs inventory .................................................... 48
    3.6.4 Digital content analysis sheet .................................. 49
    3.6.5 Documents analysis sheet ....................................... 49
3.6.6 Developers interview schedule .............................................. 50
3.7 Pilot study ................................................................................. 50
3.8 Data collection procedure .......................................................... 52
3.9 Data analysis and presentation .................................................... 54
3.10 Logical and ethical considerations ............................................. 55

REFERENCES ...................................................................................... 56
APPENDICES ..................................................................................... 60
APPENDIX I ....................................................................................... 60
APPENDIX II ...................................................................................... 66
APPENDIX III ..................................................................................... 70
APPENDIX IV ...................................................................................... 71
APPENDIX V ....................................................................................... 73
APPENDIX VI ...................................................................................... 74
APPENDIX VII ..................................................................................... 79
APPENDIX VIII ................................................................................... 80
APPENDIX IX ....................................................................................... 81
APPENDIX X ....................................................................................... 82
LIST OF TABLES

Table 1: Target schools and Digital content developers ........................................ 45
Table 2: Sample Schools, Teachers and Learners .................................................. 46
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Biology digital content and the instructional process</td>
<td>11</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Visual representation of the Cognitive Theory of Multimedia Learning</td>
<td>18</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Conceptual model of the study</td>
<td>21</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Survey design for the study</td>
<td>43</td>
</tr>
</tbody>
</table>
LIST OF ABBREVIATIONS AND ACRONYMS

ACTF - Australian Children's Television Foundation
CAI - Computer Assisted Instruction
CD - Compact Disk
CDE - County Director of Education
DEO - District Education Officer
DVD - Digital Versatile Disk or Digital video Disk
EFA - Education for All
ESP - Economic Stimulus Programme
FPE - Free Primary Education
GUI - Graphical User Interface
ICT - Information Communication Technology
Intel® skool™ - Learning and Teaching Technology, an interactive Internet resource for learning math and science.
JICA - Japan International Cooperation Agency
KEMI - Kenya Education Management Institute
KICD - Kenya Institute of Curriculum Development
KIE - Kenya Institute of Education
MoE - Ministry of Education
MoIC - Ministry of Information and Communications
MPEG - Motion Picture Experts Group
NACICTIE - National Centre for ICT Integration in Education
NCST - National Council of Science and Technology
NDLRN - National Digital Learning Resources Network

KCSE - Kenya Certificate of Secondary Education

KNEC - Kenya National Examination Council

NEPAD - New Partnerships for Africa’s Development

SAGA - Semi-Autonomous Government Agencies

SREB - Southern Region Education Board

PLR - Pupil Teacher Ratio

UI - User Interface

URL - Uniform Resource Locator

UNESCO - United Nations Educational, Scientific and Cultural Organization

VDS - Vision 2030 Delivery Secretariat