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Free/Open source Simulators as an Alternative to Commercial Simulators for Teaching Electrical and Electronics Engineering in African Universities.

Authors: N. M Muchuka¹; Lilian Amuhaya¹

¹ Egerton University

Corresponding Authors: livuambo@yahoo.com, maguunic@gmail.com

Electrical and Electronics Engineering (EEE) is essential for the development of African nations. The EEE courses in the universities are structured to enable students acquire not only theoretical knowledge, but also a practical experience for the covered topics. To expedite the bridging between the theory and the physical reality of the EEE systems, as well as speeding up of the design process, simulation tools are incorporated and used. In the developed nations, students perform the design simulations before proceeding to building the prototype utilising commercial simulations tools. These tools are out of reach in most of the developing countries due to cost and availability. In this presentation, free and open source simulations tools (FOSST) are discussed as alternatives to commercial tools for EEE design. The tools are grouped into electrical, electronics and numerical analysis tools. From the survey conducted, there are ample number of FOSSTs available for almost every aspect of EEE teaching, learning and research process.

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Academic Challenges that Postgraduate Students Face in Proposal Research Writing in Kenya: A Case of Pan Africa Christian University

Author: Dr. Solomon Munyao¹

¹ Pan Africa Christian University

Corresponding Author: solomon.munyao@pacuniversity.ac.ke

Abstract

When students enrol for postgraduate studies, the expectation is that, they will all finish their courses and graduate within the stipulated period of time. However, this has not been the case because research proposal writing has remained a real challenge for most postgraduate students in Universities across the world despite the exercise being one of the requirements that they must meet before they are allowed to go to the field for data collection. The result has been that, only a small percentage of students who enrol for postgraduate studies ever complete them. The aim of this study was therefore, to establish the academic challenges that postgraduate students at Pan Africa Christian University face while writing their research proposals and propose the necessary remedies. The study was purely qualitative and phenomenological in nature where data was collected using interview from 10 postgraduate students through in-depth interviews by use of face-to face and telephone interviews as well as online zoom meetings depending on the prevailing circumstance at hand. The data collected was analysed qualitatively after it was categorized into themes based on the study objectives. The study findings indicated identification of a research problem, development of a research topic, reading widely in the intended area of research, and crafting a conceptual framework as some of the academic challenges that postgraduate students encounter in the process of developing their research proposals. The study recommends for the intensification of both the postgraduate research writing courses and supervision as well as involvement of postgraduate students in practical research. The study further recommends for continuous proposal research writing seminars for all postgraduate who are developing their proposals.

Keywords: - Academic challenges; Postgraduate students; Research Proposal writing

ADAPTING TO THE NEW NORMAL IN THE IN THE POST-PANDEMIC WORLD: OPPORTUNITIES AND CHALLENGES OF REMOTE LEARNING IN KENYAN SECONDARY SCHOOLS

Authors: Getrude Malala¹; Henry L.N. Onderi¹; Jack Ajowi, O.¹

¹ JOOUST

Corresponding Authors: honderi@jooust.ac.ke, jackajowi@jooust.ac.ke, getrudemalala@yahoo.com

In the last one and a half decade, there has been a practice on remote teaching and learning especially with science and engineering education across the world. However, this practice was well embraced by developed countries with resources and technology. Developing countries have since been trying to adopt to this practice even with limited technological advancement. In the wake of the Covid 19 pandemic, things changed dramatically especially with the abrupt shutting of schools, colleges and universities and this generated panic over the twist of events in the education sectors. Teaching and learning was shifted from physical to online, from classroom to home and from face-to-face to video, in the efforts to restrain the spread of Corona virus. This came with quite some challenges as well as benefits. In the developing world where digital technology had not been fully embraced, there were difficulties and uncertainties in adjusting to remote learning especially in science subjects. Tutors and learners were not prepared for remote learning. In Kenya for instance, there had been no structured system for remote learning for both science and non-science subjects, except for the development that was on course for the Science, Technology, Engineering and Mathematical related (STEM) subjects. There were policies and guidelines on remote teaching in institutions of learning at the onset of Covid-19. Therefore, urgent measures were undertaken by the Ministry of Education to incorporate the media and digital platforms in online platforms through the Kenya Institute of Curriculum Development. But still, there were challenges which were encountered in as much as there were some benefits. Therefore, this research review focuses on the opportunities and challenges faced in embracing remote learning while adapting to the new normal in the wake of Covid 19 pandemic.

Key Words: Remote Learning, Post-pandemic World, Kenyan Secondary Schools.

IMPEDIMENTS TO PEDAGOGICAL IMPLEMENTATION OF 21ST CENTURY SKILLS IN TEACHER EDUCATION IN SUB-SAHARAN AFRICA. THE KENYAN EXPERIENCE AT KABARAK UNIVERSITY Jean Claude Zigama, Ph.D. Lydia K. Kobiah, Ph.D.

Author: Jean Claude Zigama¹

¹ Lecturer

Corresponding Author: jczigama@kabarak.ac.ke

Higher education in Africa has been thriving to widen access to quality education in the last two decades through diverse locally, regionally and globally initiatives (EFA, MDGs, Vision 2020/2030, SDGs, Agenda 2063...). However, a cocktail of impediments has been slowing down the implementation of these noble agenda. This paper intends to examines pre-service teachers' perceptions of possible pedagogical issues to effective teaching of the 21st century skills and how the latter will impact their professional lives. Twenty-First Century (21st) Skills are skills required for learners (at all levels of education systems in Africa) to function and succeed in global-oriented and globalized 21st e-society (e-everything and e-everywhere). The purpose is to unpack the main impediments in the pedagogical integration and mainstreaming of 21st Century skills in teacher education as perceived by pre-service teachers at Kabarak university in Kenya. Embedding 21st century skills in teacher education is necessary and long overdue in sub-Saharan Africa, especially in meeting

the requirements of Competence-Based Curriculum (CBC) standards. This paper purposes to explore pre-service teachers' perceptions of how 21st Century skills are integrated in their professional preparation, their ability to effectively implement 21st Century skills at secondary education level and work-related skills for their professional survival. The paper will also offer practical proposals and strategies for African nations to re-examine and reform their teacher education curricula as a condition sine qua non for teachers to be fit for purpose at the exit of their preparation.

Keywords:

Teacher Education, 21st century skills, Competence-Based Curriculum, e-everything (e-everywhere), pedagogical implementation

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Challenges facing curriculum implementation in early year education in londian subcounty Tendeno sorget ward

Author: AMOS None^{None}

Corresponding Author: muhiam@kabarak.ac.ke

The new curriculum CBC is progressing well now getting to a grade 5 class this month of July 2021. The implementation is leading to the end of the 8-4-4 system which has just remain with few classes in primary for the system to elapse completely which means in 3 years from now there will be no 8-4-4 classes in the primary level. The world is moving too fast especially when it comes on the matter of technology and this has been seen very clearly from the impact that covid 19 has created particularly on the field of education. Covid 19 has lead to innovation of various technological means of teaching such as the use of zoom and google meets for many compuses yo continue with the learning. It is by this reason I embrace the new system of education CBC which is more of technology on various subject the young children are taught in school. However this research paper presents various challenges the children are facing when learning in classes the new system of education. The challenges are clearly outlined in my research paper and the recommendations.

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SECONDARY SCHOOL STUDENTS' PERCEPTION OF GOOD AND EFFECTIVE TEACHERS: A CASE OF IGEMBE SOUTH SUB- COUNTY, MERU COUNTY, KENYA

Author: Lydia Kobiah¹

¹ Kabarak University

Corresponding Author: kobialydia@yahoo.com

Teacher quality is of paramount importance in determining students' academic achievement in any education system. As the most significant resource in schools, teachers are critical to raise the education standards (Organization for Economic Co-operation and Development (OECD), 2009). The value of a teacher in students' life therefore cannot be underestimated. The teacher nurtures children's love of learning and is responsible for creating a conducive environment that allows children to develop their own ideas, express their feelings, take risks, make choices and most of all grow to be strong thinking individuals (Church, 2020). Teachers can thus do untold damage to the lives of children or build and develop them into great citizens capable of serving the society in different capacities. The purpose of this study is to establish the most important characteristics of "good and effective" teachers as perceived by secondary school students. Understanding the qualities of good teachers from students view is important in minimizing the blame and complaints that often arise between teachers and students in education circles as a result of misunderstanding brought about

by failed expectations. The study will be conducted in among students in public secondary schools in Igembe South Sub- County. A sample of three hundred students will take part in the study. Both qualitative and quantitative methods involving use of questionnaires and Focus group discussion will be employed in data collection. Data collected will be analysed and presented using percentages and narrative form.

Key Words: Students Perception, Secondary, School. Good and Effective teachers

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A Critical Analysis of the Influence of Communication Skills Instruction on Soft Skills Competencies for Students in Kenyan Universities

Authors: Mary Muindi¹; Ruth Thinguri²

¹ *Kabarak University*

² *Mount Kenya University*

Corresponding Authors: thinguri@yahoo.com, marymuindi@kabarak.ac.ke

Mary Nguvi Muindi
School of Education Arts,
Kabarak University,
NAKURU, Kenya
E-mail: mmuindi@kabarak.ac.ke
Dr. Ruth Thinguri
School of Education,
Mount Kenya University,
NAIROBI, Kenya
E-mail: nthinguri@yahoo.com

Soft skills have been identified as one of the 21st-century skills that are important in the global workforce for students. Universities in Kenya offer communication skills as a common course to all first-year students to enhance their soft skills competencies. However, employers have raised concerns that the newly highered graduates are unable to use soft skills to handle various employment tasks effectively. The communication skills course does not seem to be translating to the soft skills competencies. The purpose of the study will be to conduct a critical analysis on the influence of communication skills instruction on soft skills competencies in students at the universities in Kenya. The research will be guided by four objectives: to conduct a critical analysis of listening skills instruction on soft skills competencies, to critically examine speaking skills instruction on soft skills competencies, to critically determine reading skills instruction on soft skills competencies, and to critically establish speaking skills instruction on soft skills competencies. The research will be supported by Speber and Wilson (1995) relevance theory of communication. The qualitative research methodology will be employed in the study. Data will be analyzed using content analysis. The findings of this research may provide empirical evidence to support the review of the communication skills course at the university and the inclusion of it in the Competency-Based Curriculum in Kenyan universities.

Keywords: Communication Skills Instruction, Soft Skills Competencies, Critical Analysis and Influence

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To establish the influence of teacher motivation practices on utilization of ICT in teaching activities in public secondary schools

in Nakuru East Sub-County, Kenya.

Authors: FLORENCE BIRIR¹; Betty Tikoko²; Fredrick Ngala²

¹ *CHEPNGENO*

² *Kabarak University*

Corresponding Authors: fngala@kabarak.ac.ke, btikoko@kabarak.ac.ke, pioneerfloo@gmail.com

ABSTRACT

Utilization of Information Communication Technology (ICT) in teaching activities has attracted the attention of many educators. The central problem of this study was to investigate the utilization of ICT in teaching activities in secondary schools in Nakuru East Sub-County, Kenya. The objective of this study was to establish the influence of teacher motivation practices on utilization of ICT in secondary schools in Nakuru East Sub-County, Kenya. The theoretical framework for this study was the Model of Acceptance with Peer Support (MAPS) developed by Skykes (2009) and Unified Theory of Acceptance and Use of Technology (UTAUT). The conceptual framework depicted that utilization of ICT depends on school management practices. Descriptive Survey Design was used for this study. The target population of the study was 469 teachers, 19 principals in Nakuru East sub-county, Kenya. Census sampling was used. 2 principals and 46 teachers were used in the piloting of the instrument. Sample size was 440 Questionnaires with closed-ended items were used to gather data. The instrument was piloted in Nakuru West sub-county and was validated by the supervisors and experts in the area of study. The reliability was tested using test- retest method. Data analysis was done using descriptive and inferential statistics. The finding indicates that teacher motivation practices ($\beta=0.163$) significantly influence utilization of ICT in teaching activities. It can be concluded that Teacher Motivation Practices such as rewarding them with certificates for ICT utilization and freedom to develop ICT skills and abilities is vital in enhancing utilization of ICT in teaching activities in learning institutions. The study recommends that the schools management support the teachers by motivating and encouraging them use the ICT resources in teaching.

Key Words: Selected School Management practices Utilization of ICT, Teacher Motivation practices, Public secondary schools.

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Relationship between Principals' Transactional Leadership Style and Students' Conformity to Rules in Public Secondary Schools in Nakuru County, Kenya

Author: dorcas okindo¹

¹ *student*

Corresponding Author: dorcasokindo@g.mail

student conformity to school rules is critical to achievement of academic goals. The objective of the study was to determine the relationship between principals' Transactional leadership style and students' conformity to rules in Public Secondary Schools in Nakuru County, Kenya. The study was underpinned on the Social Control Theory by Hirschi (1969). The study adopted a correlational research design. The target population was 338 Principals, 338 Deputy Principals, 3426 teachers and 116374 students in 338 public secondary schools in Nakuru County. Stratified random sampling was used to select 100 schools. Purposive sampling was used to select 100 Principals while Proportionate and simple random sampling was used to select 346 teachers and 383 students. Ten percent of the Deputy Principals were selected. Questionnaires were used to collect data from principals, teachers and students, while interviews were used to collect data from Deputy Principals. Test – retest reliability returned a coefficient of 0.70 indicating that the instruments were reliable. The finding revealed a significant positive relationship between transactional leadership style and students' conformity to school rules ($r=0.410$; $p=0.000$). This implies that when transactional leadership style was used by principals it enhances students' conformity to school rules. It was concluded that principals' transactional leadership style significantly related to students' conformity to school rules. Therefore, it is important for school principals to provide rewards and recognition constantly to students who

conform to school rules and reprimand to those students who do not conform to school rules. The study recommends that the principal should be willing to use suspension and even repeated suspension where necessary as a tool for dealing with students demonstrating chronic behavior problems that disrupt the school climate. The findings of the study will help principals to be proactive in handling issues in the school andn with

Key terms: Transactional, leadership, style ,conformity, rules

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Experiences of group think in decision making: a study of disciplinary panel members in Kenyan secondary schools

Author: Peter JO Aloka¹

¹ *University of Witwatersrand*

Corresponding Author: jairopeteraloka@yahoo.com

The study investigated the experiences of group think in decision making among members of disciplinary panels in Kenyan secondary schools. The study was anchored on the phenomenology research design. The target population comprised 60 members of disciplinary panels in 10 selected secondary schools in Rongo sub-county of Kenya. A sample size of 10 panel members was selected for interviews using the purposive sampling technique. The semi-structured interviews were used to collect data. Trustworthiness of the semi-structured interviews was ensured. The findings indicated group think was evident among members in the disciplinary panel groups during hearings. Group think was experienced among the members of disciplinary panels. The study recommends that School disciplinary panel members should be trained on group decision making.