International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979
Impact Factor: RJIF 5.72
www.allsubjectjournal.com
Volume 5 Issue 7; July 2018; Page No. 38-43

Exam and knowledge-based educations in Uganda: A comparison of concepts. A case of Lango sub region, Northern Uganda

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Abstract
The argument that today's graduates were more theoretical than practical has been dominating the educational sectors in the country. The study sought to investigate the role of Exam and Knowledge-based Education on students' Professional Competence in tertiary institutions in Lango subregion, Northern Uganda. A sample of 111 respondents was chosen from the respondents and the response rate was 100%. The study found out that Learners and instructors view education as merely passing examinations. In this view, instructors teach only what is related to exams, leaving out the core concepts that would build on knowledge and life skills that are required in the world of work. Giving much attention to exams and the nature of examination has underscored the role of teaching, prompting many education stakeholders to engage in examination malpractice The study recommended that Universities and higher education institutions should collaborate with employers and curriculum developers to ensure that whichever knowledge and skills universities and higher education institutions provide are in direct line with what employers need from employees. National Council for higher Education (NCHE), the organ responsible for accreditation of university and other tertiary institutions' academic programs should collaborate with stakeholders, particularly employers before approving institutions and university programs. It's high time that universities and higher education institutions design programs that are demand-driven than academic-driven. National examination boards should stop recycling questions, a practice that has made students and learners to correctly hypothesize what is likely to appear in an external examination. Education institutions should shift from handouts that promote cram work to handouts that promote understanding.

Keywords: exam-based education, knowledge-based education

1. Introduction
With the inevitable movement towards a knowledge-based economy, the role of both general education and technical education is being heralded as vital to the performance of this modern approach to economic development. Whether a high school graduate plans to enter the workforce directly, or attend a vocational school, community school or university; it is a requirement to be able to think critically, solve problems, communicate, collaborate, find good information quickly, and use information technology effectively; which are survival skills for today's career success. In a study conducted in tertiary institutions and firms in Greater Accra Region, Ghanaian graduates indicated insufficiency in the ability of graduates to analyze data/situations and propose solutions, leadership and innovation; technical skills, graduates' ability to take responsibility of own actions and inactions; and the lack of employment opportunities in the labor market. The need for improved outcomes in post secondary education, combined with pressure from employers who feel the graduates lack fundamental job skills have all contributed to the serious consideration of alternative models of education in colleges and universities. The widespread recognition that tertiary education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy has made high-quality tertiary education more important than ever before. Including labor market perspectives and actors in tertiary education, ensuring responsiveness of institutions to graduate labor market outcomes, and ensuring study opportunities for flexible, work-oriented study; remain to be main challenges in tertiary education.

Like many countries in the world, Uganda's education system relies on final examinations to assess learners' competence and extent to which they have mastered curricula concepts. The changing trend and demand for highly skilled human capital has put pressure on universities and tertiary institutions for knowledgeable and skillful professionals. Higher education should be a system with international allure in which students are challenged, teachers teach with enthusiasm and researchers contribute to scientific breakthroughs, resolving the big social issues in increasing our economic success. Partnerships among governments, the economic sector and research universities are growing exponentially so that new knowledge becomes linked to development goals, however, innovation often occurs outside academic environments. Traditional examinations have been widely

criticized for their lack of validity and authenticity. Traditional examinations are primarily considered appropriate for testing knowledge and comprehension but do not authentically assess higher-level skills such as synthesis and evaluation.

Most tertiary institutions in Uganda use both external and college-based assessments to measure students' achievement in the course of their one-year and two-year programs. College-based assessments are formative tasks "coursework" which contribute 30% to 40% of the final mark scores. College-based tasks take the form of individual tests, group work, presentations, practical exercises, projects and industrial training; which are assessed based on Uganda Business and Technical Examinations Board (UBTEB)'s official examination guidelines. External assessments are summative tasks, which contribute 60% to 70% of the final score. The final score is an aggregate both summative and formative results.

1.1 Problem statement

The educational system in Uganda had under gone a lot of review. The creation of Uganda Business and technical examination board was set to examine the competence of the learners in the country using the competence based education and training method. General education and technical education are being securitized and the society has preferred the later which are hands on. General education is more exam based and student just go to pass exams and tutors would only concentrate of examinations areas to make their students pass and raise the name of the institution as the best performing institutions yet there graduates are inefficient, cannot perform work perfectly and they do not have the ability to analyze situations and propose solutions. The graduates lack technical skills and ability which are commensurate to the expected grades they had acquired. It's based on this background why the researcher invested the comparison of concepts of Exam-based education, Knowledge-based education and probably come up recommendations for governments interventions.

1.2 Objective of the Study

The purpose of the study was to investigate the role of Exam and Knowledge-based Education on students' Professional Competence in tertiary institutions in Lango sub region, Northern Uganda

2. Literature Review

2.1 Exam-based Education

Examination-based education system constitutes a vital part of accountability systems in universities and higher education institutions. Whether conducted by the lecturers or an external agency, a pivotal feature of the execution of exams is that every student takes the same test, making exams an intrinsic part of the institution system. External exams, if properly implemented the possibility of the lecturer or instructor cheating is highly eliminated. The instructor cannot discuss specific questions of the exam before hand or by telling students that certain areas will not be covered in the exam. External exams provide information on performance of students, instructors, and colleges and institutes and thus facilitate monitoring of behavior of different stakeholders in the education system. Examination results are one of the most important indicators used by government to assess performance. In schools where pupils attain better examination results, the principals are more likely to be rewarded or promoted. On several occasions, performance in examinations has been used as an important standard for rewards, sanctions, promotion or demotion of Heads of schools. Secondly, examination results affect the school's reputation. Schools with higher examination scores are labeled by parents as good schools, while those with lower scores are labeled as bad schools. Since examination results are associated with career prospects of school heads and reputation of schools, schools compete fiercely with each other for better results, and school activities are examination-oriented. In Uganda, it is a common practice in Uganda to find "PLE guide" and "UCE guide" in popular newspapers, to prepare learners for graduation examinations.

Exam-based education however, leads to "teaching to the test" rather than real increase in students' knowledge. Students sometimes stop their teachers from teaching topics not closely related to examination content. Teachers continue to drill their students to prepare them for the examinations, which are often at the expense of teaching and learning. Owing to the fact that students' life chances largely hinge on their success in examinations, all forms of examination malpractice to include but not limited to corruption of examiners, prior knowledge of examination questions, hiring persons to write exams for others, cheating, entering exams with unauthorized materials and paying for marks are evident in an exam-based education system. Viewing education as nothing more than passing examinations stifles students' imagination, creativity, and a sense of self, qualities crucial for a learner's ultimate success in and out of the classroom. De-emphasizing exams better motivates students and improves students' success and psychological health, in terms of both academic success and a productive adulthood. Examinations follow the same pattern. They test the content, the subject matter to be taught or at least the knowledge needed by teachers, whether or not it is taught directly. Examinations assess basic abilities rather than a standard for defining eligibility to practice. There is a wide agreement that "soft" skills are deemed essential employment skills across sectors. There is also a misalignment between employers, educators and graduates, on the demand as well as expectations and perceptions of the skills that graduates across all disciplines possess. These critical issues require greater collaboration, clearer and consistent assessments, new training strategies and learning models, and addressing biases related to diversity. A well-received curriculum development could be distorted and undermined by a technically poor examination system, which lacked coordination. However, a technically sound examination system, well matched to its curricular objectives, has the potential to reinforce an inappropriate curriculum development.

2.2 Knowledge-Based Education

Every year, universities graduate students who lack the entrepreneurial and creative job skills needed for the knowledge economy. Universities are running programs that are unresponsive to work force needs and socio-economic needs of their countries. From the complexity theory, knowledge is the "a continuous invention and exploration,

produced through relations among consciousness, identity, action and interaction, objects and structural dynamics". Knowledge-based education programs, which focus on what students know and can do are on the rise. These programs do not assume that successful completion of the series of courses results in the achievement of learning outcomes, rather they confirm student learning through individual assessment. An exploration of knowledge management practices in south Asia revealed the need for an integration of all higher education institutional stakeholders into the effort of knowledge management and not just the academic librarian. Teaching and learning processes in whatever type of curriculum require common goals, shared responsibility and accountability between teachers and students, and supportive environments to maximize success. The concept "competence" in a knowledge-based education refers to structured sets of knowledge and skills acquired during learning, which allow the identification and resolution, in diverse contexts of the problems that are peculiar to a particular field of knowledge or field of activity. Some higher education institutions run many programs with a few professional development content. School-based programs offer teachers opportunities to deepen their own understanding of the content and provide training and coaching that focus on and delve deeply into the competencies and practices that most impact instructions and students learning. Programs must link academic coursework with the real world, underscoring the importance of rigorous academic preparation and encouraging pursuit of careers. The acquisition of knowledge in itself is not the major aim of education and training but what can be done with this knowledge. The global developments in science, society and economy necessitate higher education institutions to focus on the world of work, signified by the attention for 'core', or personal transferable skills, such as the ability to co-operate, communicate and solve problems. A more personalized approach to higher education should emphasize equipping young people to meet challenges of the rapidly changing labor market. The key to helping people get into the employment is an education system, which embeds employers' needs into the qualification of learning. There is need to conciliate the examination system with new definitions of schooling in terms of skills and competence. Accumulating credit hours to earn a degree is important but students demonstrating predefined competencies, or the students' ability to apply college-level skills and specific knowledge is more relevant. Global trends confirm that the 21st century learning is about developing the capacity and motivation to create, understand, interact and communicate knowledge. It is about training for versatility and the ability to contribute that knowledge to increasingly complex, nonlinear issues. The role of universities and higher education institutions is to provide lifelong learning, through promotion of modern methods and tools of learning leading to innovation, and stimulating creative thinking. The challenge of modern universities and higher education institutions is the need to change the overall assessment process from mere credit accumulation and for ensuring a balance between professional and personal development towards the verification of skills portfolio. Universities and higher education institutions in economics and business play a pivotal role in fostering a knowledge-based economy, which should be accompanied with modern methods and tools of learning to innovation and stimulating creative thinking. Better outcome metrics are needed to support the extent to which learning bridges the gap between theory and practice, broadens civic engagement, enhances career prospects, and contributes to the development of critical thinking.

3. Methodology

The study conducted was based on cross sectional survey design. This design was chosen to ensure that the study accurately described the true nature of the existing conditions at that time. Using both purposive and simple random sampling data was collected from the districts of Dokolo, Lira, Alebtong, Oyam and Apac among others. A sample of 111 respondents was chosen from the respondents and the response rate was 100%. The five likert scale was used to rate the answers from 1-5 which indicated (Strongly disagree to, disagree, neutral, agree and strongly agree). The questionnaire was tested for validity and the results were credible and reliable

4. Results and Interpretation

Background Characteristics

Exploring the background characteristics of respondents, (17.1%) were staff while (82.9%) were students. The gender composition indicated that (57.7%) were male while (42.3%) were female. The age distribution indicated (73.0%) falling within (20 - 29) years age bracket, (25.2%) fell within (30 - 39) years while (1.8%) were 40 and above old. The marital status of respondents indicated that (73.2%) were single while (25.2%) were married. Those who indicated the "others" option, were as low as (1.8%), and were specifically separated. In view of the level of education, (17.1%) had a university degree while (82.9%) were diploma holders.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Examination based education	111	1.45	5.00	3.5213	.59663
Knowledge based education	111	1.95	4.68	3.5688	.61651

From the finding, it is evident that there were not significant differences in the way participants understood exam and knowledge-based education systems. Considering (mean = 3.5213) and (Std Deviation = 0.59663), a coefficient of variation (16.9%) indicates consistency of views on examination based education system. In addition, (mean = 3.5688) and (Std. Deviation = 0.61651) indicates a coefficient of variation (17.2%) indicates consistency of views on knowledge-based education system. However, a consideration of the coefficients of variation for exam-based and knowledge-based education systems indicates a more consistent response on examination based than knowledge-based education system.

Table 2: Chi-square Test

	Knowledge based education	Examination based education
Chi-Square(a,b)	36.973	33.685
Df	44	43
Asymp. Sig.	.765	.845

a 45 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 2.5.
b 44 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 2.5.

To examine the association between examination based and knowledge based education, chi-square statistics indicated a (asymp. Sig. > .05). This indicates that there is a high degree of association between examination based education and knowledge based education.

Table 3: Examination-based education system

Variable Indicators	Disagreement	Not Sure	Agreement	Rank
Creativity	17.1	9.0	73.9	1
Discussion of questions before hand	23.4	5.4	71.2	2
Problem solving	16.2	14.4	69.4	3
Proposing solutions to problems	18.9	11.7	69.4	4
Imagination	17.1	15.3	67.6	5
Use of technology	24.3	8.1	67.6	6
Cheating	24.3	9.0	66.7	7
Sense of self	27.0	6.3	66.7	8
Employer expectation	25.2	9.0	65.8	9
Analyzing data	23.4	10.8	65.8	10
Finding good information	20.7	14.4	64.9	11
Critical thinking	24.3	11.7	64.0	12
Innovativeness	21.6	14.4	64.0	13
Psychological improvement	21.6	14.4	64.0	14
Leadership skills	27.9	9.9	62.2	15
Academic improvement	27.0	11.7	61.3	16
Similar pattern	26.1	12.6	60.4	17
Taking responsibility of own actions	24.3	15.3	60.4	18
Examination malpractice	32.4	10.8	56.8	19
Standard for defining eligibility to practice	34.2	13.5	52.3	20
Teaching is closely related to exams	36.9	13.5	49.5	21
Education is merely passing exams	32.4	18.0	49.5	22

An assessment of the role of examination based system in the professional building of students, participants admitted that examination-based education encourages creativity of learners (73.9%), eliminates the possibility of discussing examination questions before hand (71.2%), and promotes problem solving (69.4%) and encouraging students' imaginations. It is also clear from the findings that examination based education system makes students to view examinations as nothing more than passing exams, which prompts instructors to teach only what is related to exams (49.5%); does not provide a basic standard for defining eligibility to practice but rather assesses basic abilities (52.3%), and is marred with examination malpractices (56.8%).

Table 4: Knowledge-based education system

Variable Indicator	Disagreement	Not Sure	Agreement	Rank
Cooperation	17.1	13.5	69.4	1
Contribute critical thinking	25.2	6.3	68.5	2
Equips workforce needs	23.4	9.0	67.6	3
Challenges of changing labor market	19.8	12.6	67.6	4
Focus on what students know	20.7	12.6	66.7	5
Focus on what students can do	18.0	15.3	66.7	6
Link academic coursework to real world	17.1	16.2	66.7	7
Focus on world of work	25.2	8.1	66.7	8
Pursue of careers	18.0	17.1	64.9	9
Emphasize creative skills	16.2	19.8	64.0	10
Communication	20.7	15.3	64.0	11
Prepares for examination	22.5	14.4	63.1	12
Acquisition of knowledge	23.4	14.4	62.2	13

Broaden civic engagement	21.6	16.2	62.2	14
Professional development content	22.5	16.2	61.3	15
Enhance career prospects	23.4	15.3	61.3	16
Competencies impacting learning	24.3	16.2	59.5	17
Personal transferable skills	25.2	15.3	59.5	18
Demonstration of college-level skills at work	21.6	18.9	59.5	19
Innovation	27.9	13.5	58.6	20

In assessing the knowledge based education system, participants appreciated the system that promotes cooperation (69.4%), contributes to critical thinking (68.5%), equips learners with workforce needs to meet the challenges of the rapidly changing labor market (67.6%). However, focusing on what students can do and know (66.7%) underscores the importance of innovation (58.6%), personal transferable skills and competencies impacting learning (59.5%) and leaves them with only college-level skills.

5. Discussion of Results

The study indicated that the examination-based education system makes students view education as nothing more than passing exams. The results agree with who affirmed that viewing education as nothing more than passing exams stifles students' imagination, creativity and a sense of self, qualities crucial for a learner's ultimate success in and out of the classroom. However, the results disagree with his view on imagination and creativity. The number of participants who confirmed that examination based education system promotes creativity and contributes to imagination is evidence to this. The results indicated that external examinations eliminate the possibility of discussing questions before hand. This agrees with who contended that with external exams, the instructor cannot discuss specific questions of the exam before hand or telling students that certain areas will not be covered in the exam. The study also indicated that exam-based education systems make instructors to only teach what is related to exams only. The findings agree with, who asserted that with exam-based system leads to "teaching to test" rather than real increase in students' knowledge. He adds that students stop teachers from teaching topics not closely related examination content. The findings further indicate that exams do not provide a standard definition of eligibility. The results agree with, where it was established that exams provide a misalignment between employers, educators and graduates on the demand as well as the expectations and perceptions of skills that graduates across all disciplines possess. In view of knowledge based education, a sincere desire for knowledge promotes critical thinking. The findings agree with who recommended that higher education institutions and universities should promote modern method and tools of learning which lead to innovation and stimulate critical thinking.

6. Conclusion

The study established a high measure of association between examination-based and knowledge-based education systems. Examination based education system is commended for its ability to promote creativity and imagination among professionals in making. The fact that the system eliminates the possibility of students discussing questions before hand; promotes students' problem solving and imaginative skills. Elimination of the possibility of discussing questions before hand is limited to external exams. With internal exams however, the love for money and extending favors to some students has compromised internal exams, which contribute significantly on the final score. In real practice, creativity and imagination are essential skills which every professional should build and be able to apply, particularly in decision-making. However, the system was found to fall short in way stakeholders view examinations. Learners and instructors view education as merely passing examinations. In this view, instructors teach only what is related to exams, leaving out the core concepts that would build on knowledge and life skills that are required in the world of work. Giving much attention to exams and the nature of examination has underscored the role of teaching, prompting many education stakeholders to engage in examination malpractice. In view of the knowledge-based education system, the system promotes cooperation, contributes to critical thinking and equips learners with skills needed in the changing labor market. However, the system underscores the essential skills, such as personal transferable skills, which are most needed in the labor market. Personal transferable skills are in short supply because instructors focus on what students know and can do, which only impact learning.

7. Recommendations

Universities and higher education institutions should collaborate with employers and curriculum developers to ensure that whichever knowledge and skills universities and higher education institutions provide are in direct line with what employers need from employees. In this view, National Council for higher Education (NCHE), the organ responsible for accreditation of university and other tertiary institutions' academic programs should collaborate with stakeholders, particularly employers before approving institutions and university programs. It's high time that universities and higher education institutions design programs that are demand-driven than academic-driven. National examination boards should stop recycling questions, a practice that has made students and learners to correctly hypothesize what is likely to appear in an external examination. This has promoted the present system of teaching which is more of "teaching to test" than teaching to "personal transferable knowledge and skills". The study indicated that knowledge based education concentrates on what students know and can do, eliminating the possibility of understanding core concepts. Education institutions should shift from handouts that promote cram work to handouts that promote understanding.

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