



Research Paper

Does University Education Address 21st Century Skills? Reflections from Kibabii University, Kenya

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Abstract

Sustainable higher education systems should be a remedy to graduate employability. These Graduates of higher education need to match the demands of the labour market. High rates of graduate unemployment in Kenya has been blamed on the lack of relevant skills. The New Competency Based Curriculum (CBC) seeks to fill the skills gap by equipping learners with the 21st century competences –tools that are universally applied to amplify ways of thinking, working and living in the world. The purpose of the study was to establish the extent to which university education addressed the 21st skills. The specific objectives were to; establish the mismatch in university curriculum and graduate skills in the context of 21st century. Establish university students' profile in 21st century competences, and (iii) recommend practices that would transform university education systems to meet the demands of the labour market. The study recommends reforms in university education with a mindset to aligning it to Competency Based Curriculum. This can be achieved by engaging policy makers, industry and practitioners to address competence gaps.

Keywords: transformative practices, university education, 21st century competences

Received 20 July, 2024; Revised 01 Aug., 2024; Accepted 03 Aug., 2024 © The author(s) 2024.

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I. Introduction

Extant literature on Higher Education (HE) in both developed and developing countries is dominated by calls for quality and relevance. Whereas countries across the world have heightened their efforts towards achieving these goals, a mismatch of skills and labor market requirements still persist. The mismatch between skills acquired from HE and labour market requirements has been blamed for the high rates of graduate unemployment. And because of the critical importance, responsive and sustainable education systems that seeks to develop a set of skills aligned with labor market needs is an issue of interest to policy makers, educational planners, curriculum experts and researchers across the world. Otherwise, skills mismatches and shortages can be quite costly to the economy as a whole through their effects on increased labor costs, lower labor productivity, slower adoption of new technology, lower job satisfaction and lower earnings (OECD, 2019; OECD, 2016).

The contribution of graduate employability spans from cultivation of knowledgeable, skilled and prosperous individuals, healthy societies to robust economies.

However, while many countries have made efforts to address the problem, international evidence has shown that graduate unemployment is still a common problem in both developed and developing countries (Ding, et al., 2017; Nghia, 2019). For example, in most of the Asian Tigers- Malaysia, Taiwan, Singapore and China, evidence has shown that graduate unemployment exceeds employment rates at all levels of education (Tilak, 2020; Wu, 2011). Yet today's global economy requires highly competitive graduates who have the necessary competences (Velez, 2012). In other words, graduates who have the much needed competences are in high demand (Jerald, 2009).

As a result, many countries have embarked on reforming their educational systems to equip graduates with the highly needed competences. In ensuring that graduates' skills are consistent with the labor market

demand, a responsive and sustainable education system can reduce skills imbalances and also shortages (OECD, 2019). For instance, the Chinese government introduced robust entrepreneurship education to encourage university graduates to start businesses. According to Lu, Song & Pan (2021) positive entrepreneurship attitudes and self-efficacy are influenced by university entrepreneurial support. Thus, China's university education aims to equip the graduates with entrepreneurial skills which would assist them to broaden their horizons in the world of job creation.

According to the Programme for International Students Assessment (PISA), Singapore, South Korea and Finland are ranked highly in education. These three countries are culturally, historically, and systematically different, but have achieved almost similar successes through different education systems. Both Finland and South Korea education systems are considered to be deeply rooted in their culture. For instance, daily reading is a habit for the Finnish people.

Singapore education system has a great deal of aspects that can be emulated by other countries that are struggling with establishing quality and relevant education. Faced with high levels of graduate unemployment, Singapore begun reforming her education system so as to bridge the skills gap among graduates. Singapore's educational reforms have undergone several phases (Gulnar, 2021). First, they started by teaching the basics and aimed to produce a good and valuable citizen. This phase was named the survival phase, which continued from 1959-1978.

After independence, Singapore dealt with a significant amount of unemployment, high population growth by creating a national education system to produce workers for industry. The next phase of called the "Efficiency –driven phase" from 1979 to 1996 focused on a labour intensive market to capital and skill-intensive market. During phase, education provided multiple pathways and students with different abilities chose appropriate streams based on their knowledge. The last phase focuses on enhancing research, critical thinking and innovation. And today, Singapore's rapid economic prosperity is linked to her education system. The education is considered adaptive with reputation for preparing excellent STEM learners, who possess creativity and critical thinking skills. In addition, the education system focuses on deepening and diversifying international connection, and building new networks through which youth can facilitate innovation

The Finnish education system is an internationally recognized example of a high quality performing education system that successfully combines high quality with widespread equity and social cohesion. The success of the Finnish education has been credited largely on education policy and implementation that aims to recognize and overcome challenges through collaborative reform and strategy. According to OECD (2015), individuals of the 21st century require wide range of tools including digital technologies to interact effectively with the environment, to interact with various groups and perform inquiry – oriented work and problem solving. In this environment, both critical and creative thinking are needed to learn these competences.

Toward Sustainable Higher Education System in Kenya

There have been several initiatives towards reforming university education in Kenya. These initiatives epitomize government commitment to address quality and relevance, with a view to achieve sustainable higher education in the country. One such initiative was the Ominde Commission (1964) that recommended education system for national unity, human capital development, and wealth creation. The McKay report of 1985 which recommended the 8-4-4 system of education focused on how graduates at each level of education could be self-sufficient and productive by equipping them with technical and practical skills. (Inyenga, et al., 2022).

The Odhiambo Education Task Force (2010) on realignment of the education sector to Kenya Constitution (2010) addressed issues of quality, relevance and transition. The task force informed the Sessional Paper No. 2 of 2015 on reforming education and training in Kenya recommended a reformed curriculum that adopts a competency based approach. In line with the recommendations of the Sessional Paper No. 2 of 2015, in 2018, the Kenya government announced introduction of a new system of education- Competency Based Curriculum (CBC).

To address the dilemma of inadequate skill preparation, the Kenyan government embarked on reforming the country's education system by introducing the Competency-Based Curriculum (CBC). Proponents of CBC argue that this new curriculum aims to provide learners with a world-class education, equipping them with essential skills needed to thrive in the 21st century. Unlike traditional education systems that often focus on rote memorization, the CBC emphasizes the development of key competencies that are crucial for modern life and work.

The CBC is designed to cultivate a wide range of skills, including digital literacy, which is increasingly important in today's technology-driven world. It also focuses on enhancing communication and collaboration abilities, recognizing that effective teamwork and interpersonal skills are vital in both personal and professional settings. Critical thinking and problem-solving are central to the CBC, encouraging students to approach challenges analytically and creatively.

Additionally, the curriculum places a strong emphasis on creativity and imagination, fostering an environment where innovative ideas can flourish. "Learning to learn" is another fundamental component,

promoting lifelong learning habits that enable students to continuously adapt and grow in a rapidly changing world. Entrepreneurship education within the CBC aims to inspire students to think entrepreneurially, equipping them with the skills to create and manage new ventures. Furthermore, citizenship education is included to develop responsible and informed citizens who can contribute positively to society.

By integrating these competencies, the CBC seeks to produce well-rounded individuals who are not only academically proficient but also capable of navigating and excelling in a complex, dynamic global landscape.

II. Objectives of the study

The purpose of the study was to establish the extent to which university education addressed the 21st century skills. The specific objectives were to;

- i) Examine the competence gaps among university graduates in the context of 21st century.
- ii) Establish university students' profile with regards to 21st century competences, and
- iii) Recommend practices that would transform university education systems to meet the demands of the labour market.

III. Materials and Methods

The survey targeted all undergraduate and post graduate students, academic staff and alumni of Kibabii University. A descriptive survey design. 200 (185 undergraduates, 15 postgraduate) students participated in the study. The students comprised of; 126 students from Schools-School of Education (SOE), 3 from the School of Nursing, 30 from School of Business & Economics (SOBE) and 15 from Faculty of Social Sciences. Only 8 members of the academic staff responded to the survey instrument. An online questionnaire was used to collect data. The questionnaire was shared through various students WhatsApp groups.

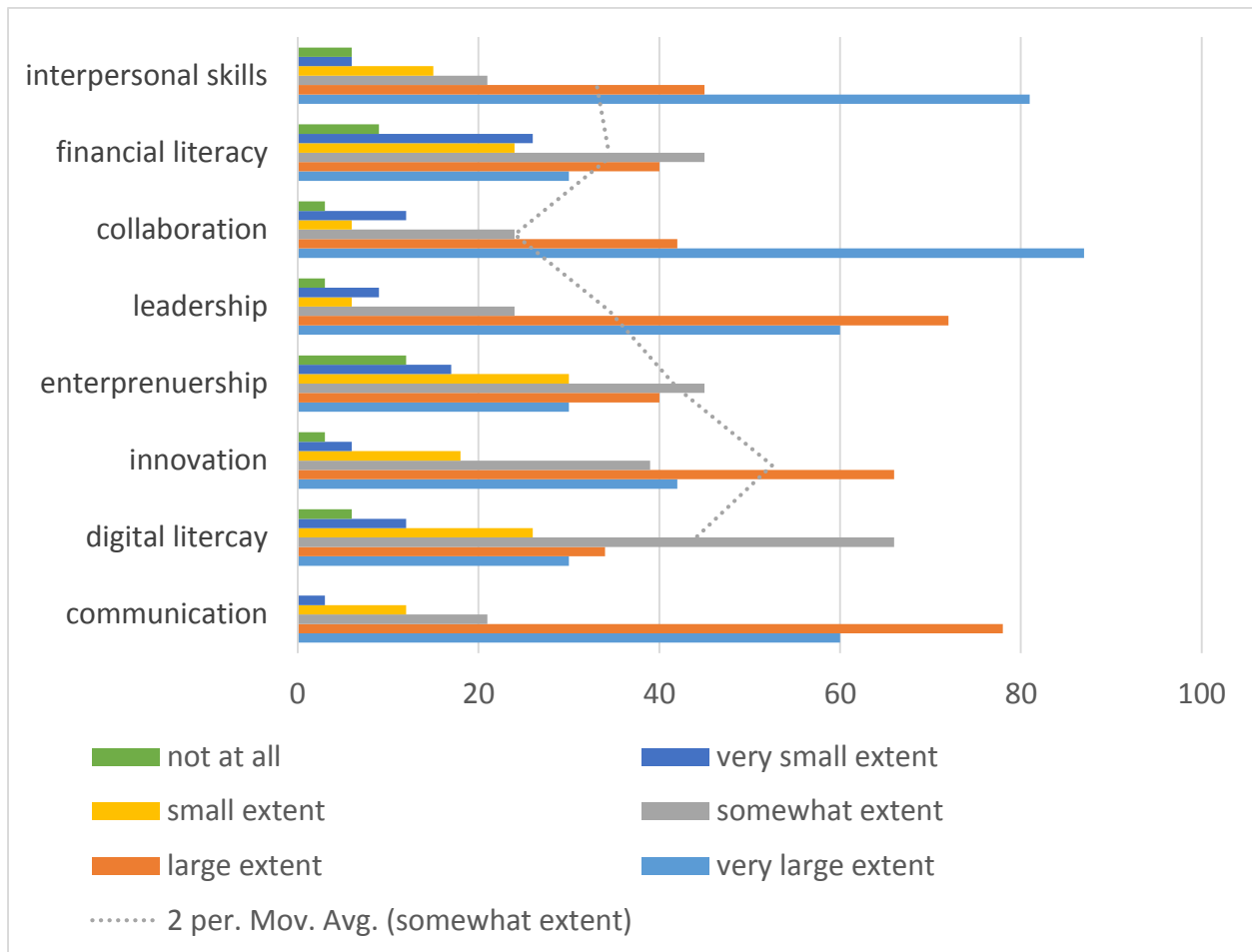
Data was examined and analyzed using descriptive statistics in SPSS 26 computer software. The online questionnaire remained accessible for one month. At the end of the survey period, data was downloaded in google sheet format. Downloaded dataset was screened and sorted to establish consistency and accuracy. Incomplete were discarded. In total, data from 26 respondents were discarded because they considered outliers. The responses from the academic staff were not included in the analysis because the response rate was considered too low to warrant any meaningful generalization.

IV. Findings and Discussions

The data collected was analyzed and the findings and discussions thereof. The findings are based on the three objectives of the study.

4.1 Competence gaps among University students in the Context of 21st Century.

The survey sought to establish the graduate employability skills in the context of 21st century competences. A five point Likert scale; where 0= Not at all, 1= very small extent, 2= small extent, 3= somewhat extent, 4= large extent 5= very large extent was used to measure the respondents' own assessment of skill gaps in selected 21st century skills. The responses were analyzed and presented in Figure1.



Note: N= 174

Figure 1. Level of graduate employability skills in the context of 21st Century.

Figure 1 reveals the competence areas where students across the faculties and schools reported varied levels of competence gaps. Cumulatively, 110 (63.2%) students reported that they were either not at all and only somewhat competent in digital literacy, 104 (59.8%) reported being not all and somewhat competent in entrepreneurship and another 104 (59.8%) not at all or just somewhat competent in financial literacy. Since studies have proved that initiatives to promote entrepreneurship education among university students is an effective measure in solving graduate unemployment (Li & Islam, 2021; Zhou, Li & Shahzad, 2021). Therefore, the survey findings indicating that students lack entrepreneurship skills highlight the importance of incorporating entrepreneurship education into the curriculum. By embedding entrepreneurship education, universities can equip students with the necessary skills and knowledge to create their own job opportunities, fostering innovation and self-sufficiency. This approach not only addresses the immediate issue of graduate unemployment but also contributes to a more dynamic and resilient economy in the long term. Furthermore, entrepreneurship education can inspire students to think creatively and take calculated risks, which are essential traits for successful entrepreneurs. It can also provide them with a practical understanding of business operations, financial management, and market analysis. In light of these benefits, integrating entrepreneurship education into university programs can be seen as a strategic move to enhance students' employability and economic contribution.

4.2 Extent to which the university curriculum equips learners with 21st century competences

The survey sought to examine the extent to which the university curriculum offered currently would equip the learners with selected 21st century skills. A five point Likert scale where; 0= Not all, 1= very small extent, 2= small extent, 3= somewhat extent, 4= large extent and 5= very large extent was used to measure the respondents own perception of the construct under study.

The findings displayed in Figure 2 indicate that majority of the respondents reported university curriculum equipped learners with digital literacy, innovation and entrepreneurship just between small and somewhat large extent. Yet digital literacy which is one of the challenges of integration of technology in

academic courses offer the competences and required for navigating a fragmented and complex information ecosystem. The inadequacy of digital skills among university graduates suggests that they may face significant challenges in integrating and navigating today's complex information ecosystem (Voogt,2013). In an increasingly digital world, proficiency in digital skills is essential for effectively managing information, utilizing technological tools, and adapting to fast-evolving work environments. Graduates lacking these skills might struggle with tasks that require digital literacy, such as data analysis, online collaboration, and digital communication, which are now fundamental in most professional fields.

This deficiency can impede their ability to compete in the job market, where employers highly value digital competencies. Moreover, the absence of digital skills could limit graduates' capacity for innovation and problem-solving, as they may not be able to leverage digital tools and resources to their full potential. This gap highlights the urgent need for universities to prioritize digital literacy in their curricula, ensuring that students are well-prepared for the demands of the modern workplace.

By integrating comprehensive digital skills training into their programs, universities can help students develop essential competencies, such as coding, data management, and cybersecurity awareness. Additionally, fostering an environment that encourages continuous learning and adaptation to new technologies can further enhance graduates' readiness for the digital age. Addressing this issue not only benefits individual students but also contributes to a more skilled and adaptable workforce, capable of driving innovation and economic growth. Thus, enhancing digital literacy among university graduates is crucial for their personal and professional success and for the broader advancement of society

V. Conclusion

From the findings of the study, it was concluded that while university education has successfully addressed some 21st-century skills, it falls short in effectively teaching innovation, financial literacy, and entrepreneurship. These gaps indicate a crucial need for curriculum reforms to ensure that students are well-equipped with the skills necessary for the modern workforce. Addressing these areas can better prepare graduates to navigate the complexities of today's job market, fostering a generation of innovative thinkers and financially literate entrepreneurs capable of driving future economic growth and societal progress

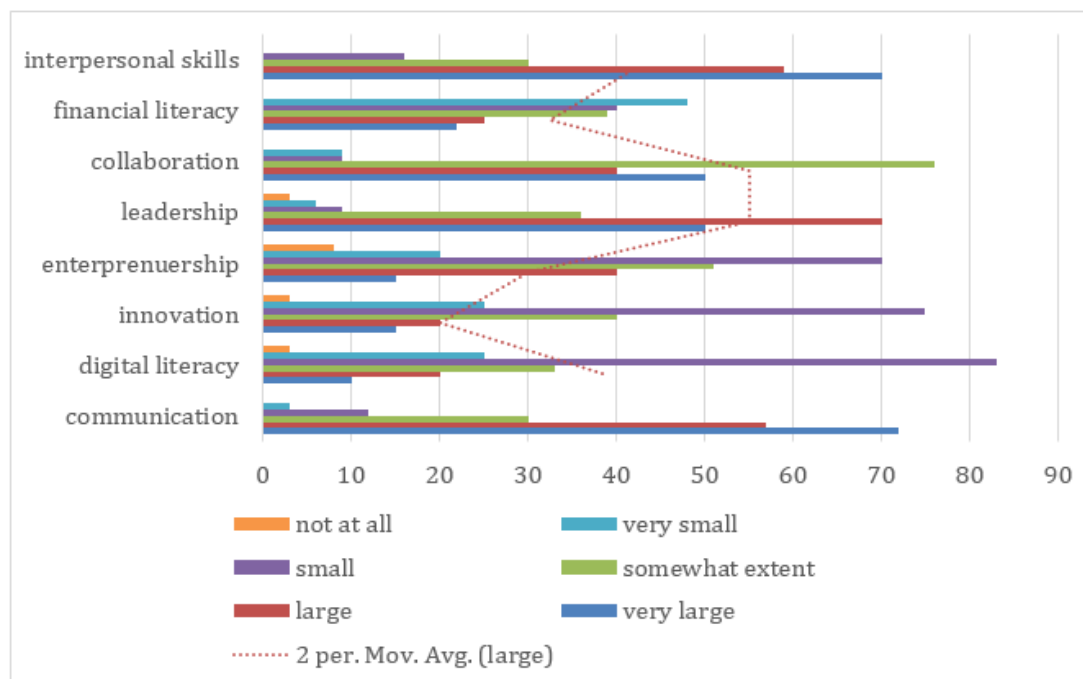


Figure 2: Extent to which University curriculum equipped learners with 21st century competences

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