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Delivery of higher education in African universities: the Ugandan context

This paper explores education delivery in African Universities where traditional, classroom-based methods dominate. Despite the potential benefits of blended learning models, their implementation is hampered by inadequate technological infrastructure, poor internet connectivity and power failures. This underscores the urgent need for increased government financing to strengthen higher education institutions particularly in Uganda.

Key words: Higher education; Africa; pedagogy; Uganda; COVID-19.

Universities are established primarily for the purpose of teaching, with research and the application of academic knowledge in external contexts as their secondary mission, followed by fostering relations between universities and society as their tertiary aim [6]. The process of teaching is therefore critical in fulfilling the other missions and also eradicating a mismatch between the high academic grades and the quality of the output.

Higher education constitutes a significant investment in the human resource which together with other factors contributes significantly to the country’s national development and growth [3]. Uganda, with a population of 45.9 million people according to the latest census report [10] lies on the Eastern part of Africa, landlocked and bordered by six (6) other countries.

Uganda’s higher education history is only as old as the first higher education institution, Makerere University which began in 1922. Today, the country boasts of more than 237 Universities (public and private) and other degree awarding institutions, with an enrolment of over 270,000. Although these numbers shot up, the facilities to deliver quality teaching remained elusive with a computer to student ratio being as high as 11 to 1 [4]. The emergence of the COVID-19 pandemic was a blessing in disguise as it sprung a major shift in delivery methods from chalk and talk to online based systems. Gaps however were evident as many institutions were unprepared for this big shift [1]. Therefore, this study seeks to explore the methods of lecture delivery used in higher education in Africa using Uganda’s situation in looking at the challenges they face and then propose a way forward.

The onset of COVID-19 provided a litmus test for many pedagogical approaches used in Africa particularly in Uganda. It also brought to life the old adage «necessity is the mother of invention» where need met innovativeness. For the first time, many lecturers managed to teach classes without seeing any face but a gadget in front of them. Lecture notes were also digitized. This study aims to take a closer look at the dynamics of the content delivery methods and their effectiveness in the 21st century.

Uganda's higher education is traceable to the start of Makerere University in 1922 as an institution formed to train African artisans. On acquisition of university status, it started awarding degrees from 1950 while affiliated to some universities in the United Kingdom. Later, it became part of the partner states which formed the University of East Africa. Much of higher education in Uganda has been public sector driven until 1988, when Islamic University of Uganda came on board. However, with the amendment of laws 1990 came more private universities [8].

Subsequent to the implementation of a local language policy in 2007, the initial three years of elementary education are conducted in the dominant local language, after which English assumes the primary role as the language of teaching. All secondary school instruction is conducted in English. Although the local language policy was first warmly welcomed, the nation's diverse ethnic and linguistic groupings, as well as the dearth of resources and qualified teachers for many minority languages, have made it difficult to execute the program successfully [4]. At the tertiary level, each semester consists of 15 weeks of teaching and two weeks of examinations which are done in English.

The teaching methods differ according to the subject (science or humanities), level of background knowledge, age and experience of the teacher as well as other factors. According to Peter Dean et al [2], teaching methods are categorized as: *Fixed response, Investigatory*, *Expository* and *Others*. Under the Fixed response method, three other methods are defined – *rote learning, drill and practice* as well as *programmed learning*. *Rote learning* concerns itself with repetition of facts and memorization. It's used in young age groups to concretize the knowledge base. In the Drill and practice method, an educator demonstrates a specific skill, which the students subsequently emulate through practice. This methodology is predominantly applied within the realms of Sports science disciplines.

The *programmed approach* necessitates the educator's meticulous preparation of instructional content alongside the anticipated or comprehensive responses that are cultivated through systematic procedures. Conversely, investigatory methods entail the educator assigning an activity to the learners, enabling their experiences to be quantified through mathematical analysis. In this context, the educator assumes the role of a facilitator of knowledge acquisition. Examples of such methodologies encompass: *Directed discovery*, *Guided discovery*, *Exploratory discovery, Free discovery*, and *Experimentation or experiential learning*. Experiential learning according to [9] is an instructional approach that emphasizes learners reflecting on their experiences to acquire both conceptual understanding and practical skills. Kolb's model [5] of experiential learning proposes four phases for this procedure: tangible experience, thoughtful observation, active experimentation, and abstract conceptualization. The majority of these methodologies are predominantly employed within the domains of Science, Technology, Engineering, and Mathematics (STEM).

Conversely, the *Expository method* constitutes a distinct category. This category encompasses three specific methodologies: Lecture, deductive reasoning, and inductive reasoning. These methodologies are typically favored within the realm of the Arts. The remaining pedagogical approaches generally align with these classifications, although not all fit neatly into them. Such methodologies include, but are not limited to, techniques such as *Question and Answer, Discussion, Demonstration, Homework, and Projects*. A good teacher should use a variety of methods in a lesson for an effective teaching learning process. Where a single method is used, the lesson maybe boring.

Most of the methods above are classroom based using the traditional synchronous approach. Without the black board, many Ugandan institutions failed the COVID-19 test because of a lock down instituted by government. This was and is still exacerbated by unstable internet connectivity, power supply limitations, lack of ICT gadgets and the students' own unpreparedness among other limitations [1]. A blended approach to teaching although desirable, seems untenable in the short-term post COVID-19 era. Improvements in higher education financing may help to furnish institutions with the right technological infrastructure.

While classroom-based education remains the primary mode of delivery in Uganda's higher education as in many African Universities, it faces significant challenges in adapting to the 21st-century demands. The lack of technological infrastructure for blended learning limits innovative teaching methods and flexible learning environments. High internet costs and frequent power outages further hinder educators and students from effectively engaging with digital resources. To improve educational outcomes, stakeholders must invest in technological infrastructure and develop strategies to overcome these barriers.

By creating a supportive environment for blended learning, we can empower both educators and students, ensuring that Ugandan education aligns with global trends and addresses the needs of its diverse population.

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