

# Journal of Education

ISSN Online: 2616-8383



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**ISSN: 2616-8383**

# Influence of Educational Strategies on Online Learning in Kenyan Institutions of Higher Learning amid COVID 19 Pandemic

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*How to cite this article:* Nduati P. Kariuki P., Wanjohi P & Nguyo R (2021). Influence of Educational Strategies on Online Learning in Kenyan Institutions of Higher Learning amid COVID 19 Pandemic. *Journal of Education*. Vol 4(7) pp. 94-103. <https://doi.org/10.53819/81018102t2023>

## Abstract

The study sought to establish the influence of educational strategies on online learning in Kenyan institutions of higher learning amid COVID 19 Pandemic. Higher learning institutions, like every other educational institution were forced to close down to curb the spread of covid-19. As centers of innovation across the world, universities were expected to come up with solutions. Higher learning institutions in Kenya embraced online learning. Naturally, there were concerns as to whether such institutions can handle such a massive transformation seemingly overnight. These institutions had to initiate online lectures as well as exams in some cases in order to continue with a school calendar that had already suffered greatly as a result of the covid-19 pandemic. The transition has not been perfect and has faced a number of challenges. The paper used a desk study review methodology where relevant empirical literature was reviewed to identify main themes. A critical review of empirical literature was conducted to establish the influence of educational strategies on online learning in institutions of higher learning in Kenya. The study concludes that the educational strategies have a positive influence on online learning and can be applied individually or collectively depending on the circumstances. The study recommends that institutions of higher learning in Kenya should apply cooperative learning activities in online learning. The study also recommends that institutions should also use differentiation strategy so as to use different techniques for different students and that institutions of higher learning apply the behavioral approach technique by encouraging good behaviors by praise and motivation.

**Keywords:** *Educational Strategies, Online Learning, Covid 19, Higher Learning*

<https://doi.org/10.53819/81018102t2023>

## 1.1 Introduction

Educational strategies are methods or techniques used to enable learners to become independent and strategic in their learning. When students independently choose the ones appropriate to them and use them to achieve tasks and meet their objectives then they become learning strategies. (Learning, 2015). Educational strategies are meant to motivate students and help them focus their attention towards learning, organize the information so as to easily understand and remember it and enables them to monitor and assess their learning progress. Effective educational strategies can be applied by students across all subject areas and educational levels and can accommodate students with a wide range of differences (Andersen & Watkins, 2018). Educational strategies can be employed simultaneously in a classroom to achieve the common learning objectives for all students i.e. the stipulated coursework by applying different strategies to different students based on the strategies that best serve individual learners. Different teachers or instructors may also have strategies that they feel most comfortable with but this should not hinder them from using other strategies if they will bring more benefits to the students (Bailey & Lee 2020).

Learning in its simplest form can be defined as acquiring knowledge through studying, teaching, instruction or experience. Online learning is the use of computers and smart devices to access learning from anywhere, anytime and in any way (Singh & Thurman, 2019). Online learning has the advantage of fitting education to the convenience and schedules of learners rather than having learners fit their lives around school. Online learning is a tool that can make the teaching–learning process more student-centered, more innovative, and even more flexible. Singh and Thurman (2019) define online learning as “learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access. In these environments, students can be anywhere (independent) to learn and interact with instructors and other students.

When Covid-19 was reported, not many expected it to have quite the impact it has had. It has affected all sectors in all parts of the world. One important sector that suffered is education. Schools and institutions of higher learning across the world were largely affected. The enforcement of quarantine in most of the world’s countries had an effect on universities and grinded the operations of such institutions to a halt. To counter this, such operations were transferred online either partially or in full. Institutions that had already incorporated online learning had a bit of a head start but the rest were forced to fully embrace online learning not only as an option but also as a necessity.

Higher learning institutions, that is, universities and colleges like every other educational institution were forced to close down to curb the spread of covid-19. As centers of innovation across the world, naturally universities were expected to come up with solutions. Higher learning institutions in Kenya embraced online learning. Naturally, there were concerns as to whether such institutions can handle such a massive transformation seemingly overnight (Dhawan, 2020).

## 1.2 Statement of the Problem

The covid-19 pandemic has necessitated the switch from offline to online learning. The pandemic made institutions that were previously reluctant to fully embrace change. It shows that online learning can be lucrative. Online learning enables institutions to reach a large number of students

from anywhere in the world and at any time. All higher learning institutions must embrace this technology. A lot of colleges and universities have moved all their operations online. Those that do not adapt to this change risk falling behind. Higher learning institutions that are able to embrace this change while maintaining high quality of education. This shift comes with a number of challenges including creating personalized teaching systems, scale of the education as well as feedback systems that is essential to the learning process.

Pete and Soko (2020) evaluated the level of preparedness of both instructors and learners in Sub-Saharan Africa. This was measured by the devices they use, levels of digital proficiency, access to internet and their satisfaction with cost of connectivity, speed and stability of the internet. They found that there was extremely low level of satisfaction with the internet connection, cost and reliability. The study recommended that institutions should maximize the use of mobile technology to teach and enhance online learning since majority of the learners possess smart phones and laptop devices.

Odero (2019) found that online learning is effective in terms of enhancing creativeness and innovativeness, its cost effective; it propels student engagement and also increases students' motivation. However, the study also highlights some challenges that may be experienced such as poor lecturer and student attitude and perceptions, inadequate finances, increased workload, poor infrastructure, insufficient internet connectivity, inadequate technical skills amongst many others. If public universities want to succeed in online learning they need to consider its effectiveness and challenges. The Kenyan Government shutdown all Kenyan institutions of higher learning to prevent the spread of Covid-19 in March 2020. These institutions had to initiate online lectures as well as exams in some cases in order to continue with a school calendar that had already suffered greatly as a result of the covid-19 pandemic. The transition has not been perfect and has faced a number of challenges. This study therefore sought to establish the Influence of Educational Strategies on Online Learning in Kenyan Institutions of Higher Learning Amid COVID 19 Pandemic.

### **1.3 Objectives of the Study**

- i. To establish the influence of educational strategies on online learning in Kenyan institutions of higher learning amid the COVID 19 Pandemic.
- ii. To give recommendations to Kenyan Institutions of Higher Learning on online learning amid the Covid 19 pandemic.

### **1.4 Research Questions**

- i. What is the influence educational strategies on online learning in Kenyan institutions of higher learning amid the COVID 19 Pandemic?
- ii. What are some of the recommendations on educational strategies on online learning in Kenyan Institutions of higher learning?

## 2.1 Literature Review

### 2.2 Theoretical Framework

#### 2.2.1 Behaviorism Theory

This theory can be dated back to the early 1900s under Pavlov's conditioning of dogs. However, it was developed in the late 19<sup>th</sup> century and early in the 20<sup>th</sup> century when an American psychologist, James Watson posited that the public would only accept the new way of psychology as a true science if it involved scientific measurement and objective observation. This theory argues that learning happens when a person responds positively to certain external stimuli, which is why this theory is sometimes referred to as the stimulus response theory (Clark, 2018). The stimulus, the response and the relationship between the two are the key elements of the behaviorism theory. In particular, the theory focuses on how the association between the two are created, strengthened and maintained. The behaviorism theory defines learning as nothing more than the acquisition of new behaviors (Budiman, 2017). The theory is important to this study in that it explores the relationship between the external stimuli in this case instruction through teaching and lectures and the response of the students. The response is typified by their levels of understanding.

#### 2.2.2 Cognitivism Theory

Cognitivism theory replaced behaviorism in the 1950s and 1960s. It is seen as a reaction to the rigid nature of the behaviorism theory. Cognitive theorists entertained the concept that the mind has an important role in learning and sought to focus on what happens in between the occurrence of environmental stimulus and student response. They saw the cognitive processes of the mind, including interpretation, problem solving, thinking, memory, reasoning and perceiving, as important parts of learning that link external stimuli and how learners respond (Picciano, 2017). This theory differed from the behaviorism theory because it does not consider humans as simply beings that merely respond to external stimuli but saw humans as capable of holding rational thought and learning by actively participating in learning activities (Clark, 2018). Cognitivism is the ability of the human mind to obtain, process and store information. This theory is important to the current study because it explores the role of the student in the learning process and how learners at higher learning institutions in Kenya can improve their online learning process.

## 2.3 Empirical Review

Kövecses-Gösi and Viktória (2018) undertook a study that demonstrated methodological characteristics and outlined the principles of digital culture. Given that education has changed especially over the last few years towards an educational model that is based on cooperative-teamwork and more experience-focused. The study also introduced how to involve learners of different intelligent levels through cooperative techniques that can be applied virtually especially the opportunities presented by the MaxWhere program in the planning and organization of teamwork to support learning.

The Covid-19 pandemic necessitated that students study from home instead of their classes. Previously, the learning process has been face-to-face but it was still largely dependent on teachers. Focus has been made on teaching rather than on learning. The learning activities are dependent on the preferences of the teachers; this is contrary to teaching recommendations that state that learning

efforts should be focused mainly on the students. The application of the cooperative model in online learning is needed if online learning is to improve its standards. Without physical meetings, the problems that arise can be minimized by teachers adapting the process of distance learning. In this regard, the teacher becomes a facilitator of learning and a mediator of the process rather than dominating the educational activities. The cooperative model gives students opportunities to learners to build their own knowledge together (Silalahi & Hutauruk, 2020).

According to Adnan and Anwar (2020), those who do have access to the right technology, there is evidence that learning online can be more effective in a number of ways. Some research shows that on average, students retain 25-60% more material when learning online compared to only 8-10% in a classroom. This is mostly due to the students being able to learn faster online; e-learning requires 40-60% less time to learn than in a traditional classroom setting because students can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose. Nevertheless, the effectiveness of online learning varies amongst age groups. The consensus on children, especially younger ones, is that a structured environment is required, because kids are more easily distracted. To get the full benefit of online learning, there needs to be a concerted effort to provide this structure and go beyond replicating a physical class/lecture through video capabilities, instead, using a range of collaboration tools and engagement methods that promote “inclusion, personalization and intelligence

Ehsan, Vida and Mehdi (2019) sought to investigate the effectiveness of cooperative learning in English language classrooms to enhance Iranian students’ speaking skills and motivations. A pre-test-post-test control group design was employed to compare the impact of the cooperative learning approach with that of traditional whole-class instruction on speaking skills and six aspects of learning motivation: intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and motivation. The findings showed remarkable development in the students’ speaking skills after the introduction of cooperative learning techniques. Moreover, the findings suggested significant differences in favor of cooperative learning for improving intrinsic motivation, but no differences were found on other aspects of motivation. In light of the findings, the researchers recommend that teachers could benefit from applying CL in English classes, which may in turn develop students’ speaking skills and motivation.

Munir, Baroutian, Young and Carter (2018) discussed the reasons for flipping a classroom in an Engineering course and for including cooperative learning, supported by the literature. The results showed that flipped classroom helped to develop and improve students’ learning and critical analysis skills. Furthermore, cooperative learning improved students’ communication skills and enabled them to build their teamwork and problem-solving skills. More than 90% of students agreed that flipped classroom with cooperative learning enabled them to extend their skills. Nonetheless, we show how much work is required to achieve this, and what pitfalls lie in the way.

Thapliyal, Ahuja, Shankar, Cheng and Kumar (2021) conducted a research study on the ontological design and implementation of the differentiated learning environment in the domain model of an intelligent tutoring system for children with specific learning disabilities. The study addressed the need for differentiated instruction in a preferential educational environment. The proposed framework is designed to identify the most affected learning domains and related multiple-criteria’s which effects the learners. Different techniques can define a set of rules to decide the most preferred learning environment. The aim of the proposed model is to reduce the gap between learner and learning habits with special needs. It designed an intelligent tutoring

system (ITS) that evaluates and validates the different learning environments for different learners. The results show that the model enables an ITS to improve the implementation of appropriate learning strategies with high accuracy and sensitivity for both learning and non-learning-disabled users.

There have been a number of changes in online learning as new technologies influence how e-learning portals operate. The differentiated learning strategy adds value and enhances the online learning provided by learning institutions. Montebello, Pinheiro, Cope, Kalantzis, Haniya, Tzirides and Searsmith (2018) presented an online learning model that advocates for differentiated learning through the latest technologies. The paper advances the idea of “productive diversity” in learning, replacing the conventional method characterizing the communicative practices of “didactic pedagogy,” including textbooks, lectures, tests. Computer-mediated, networked learning environments can support differentiated learning on a number of dimensions, where students are able to work at their own pace, choose their own topics within a general disciplinary rubric, and offer each other feedback in such a way that differences in perspective become a valuable resource for learning.

Ismajli and Imami-Morina (2018) conducted a study to make a descriptive analysis of the influence of interactive strategies on understanding the knowledge based on the abilities and the needs of each learner. The study also aimed to describe the level of implementation of differentiated instruction by the teachers based on the content, process and product for each student. Through descriptive analysis, the findings established that the understanding and implementation of differentiated instruction in primary schools is not at the right level and that the differences between public and non-public schools are far less visible. Teachers pay more attention to the product and less the content and the differentiated learning process. Parents are also willing to collaborate with the school for this new way of instruction.

Behavior management is an important factor of effective education. Wheldall and Merrett (2017) conducted a study to determine the effect of positive contingent teacher touch on the classroom behaviour of infant-class children. Most studies are based on contingency management procedures are programmed. Most teachers acknowledge disruptive behavior as one of the problems facing learning in classrooms. Educational psychologists argue that positive teaching should include praise and approval from teachers and reduce disapprovals and reprimands on the students. The study pointed out that praise may or may not act as positive reinforcement and that teachers can use praise for other purposes.

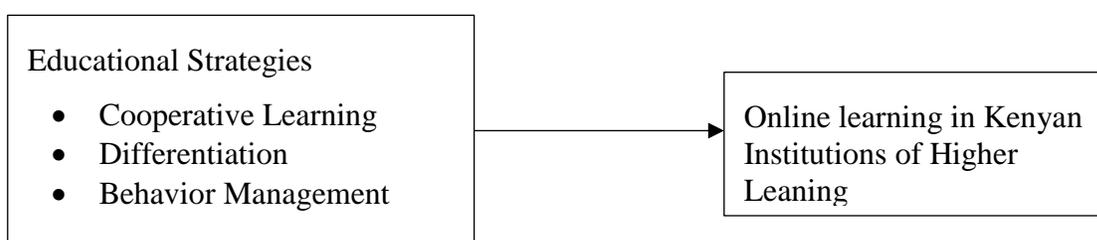
O’Brien (2020) explored several theories that inform the perception of student behaviour and influence the approaches of contemporary education. The study examined the priorities for teachers and education for middle aged learners. The chapter considers if positivity as a managing behavior have a significant effect. Traditional behaviourism sees behaviour as a response to external stimuli and aims to manipulate behaviour by rewarding desired behaviour and discouraging non-desired behaviour. Cognitive training as an intervention combined with some positive reinforcement. Contrastingly, humanist perspectives aim to enhance the understanding of the human experience and the role of basic needs. Contemporary educational practices embrace and reflect social views of learning and development.

Wang (2017) examined the exploration of how online behavior affects achievement in flipped classrooms. The study focuses on the exploration of how online behavior engagement affects the achievement in flipped classroom with a problem-centered learning flow that includes activation,

demonstration, application and integration. The findings established that engaging in problem-solving activities had a significant effect on learning achievements. The findings also show that engaging in activities of self-assessment and self-reflection had a significant effect on engagement of problem-solving activities. Based on these findings, it is argued that the design of attractive and progressive problem-solving activities is at the heart of an effective flipped classroom, and promoting a learning culture of self-reflection and self-assessment helps trigger active engagements in other online learning activities.

## 2.4 Conceptual Framework

The Conceptual framework provides a diagrammatical illustration that shows the connection between the independent and dependent variables (Kothari, 2006). The figure below depicts the relationship between educational strategies and online learning in Kenyan institutions of higher learning amid COVID 19 pandemic as shown in Figure 1.



**Figure 1: Conceptual Framework**

## 3.1 Research Methodology

The study sought to established the influence of educational strategies on online learning in institutions of higher learning in Kenya. The paper used a desk study review methodology where relevant empirical literature was reviewed to identify main themes. A critical review of empirical literature was conducted to establish the influence of educational strategies on online learning in institutions of higher learning in Kenya.

## 4.1 Results and Discussions

From the empirical review, the study found that cooperative learning can be applied to virtual learning to help learners at different levels of intelligence through cooperative techniques that focus more on the learning experience (Kövecses-Gósi & Viktória, 2018). The study also found that conventional educational techniques are dependent on the teachers and as such focused on teaching rather than on learning. The preferences of the teachers came first rather than the needs of the students. Cooperative learning can be applied to online learning to make teachers facilitators and mediators of the learning process rather than the focal point of the process (Silalahi & Hutaauruk, 2020). Cooperative learning can be effective in raising the motivation levels of students. Cooperative learning has a significant impact on the intrinsic motivation of young learners. Ehsan, Vida and Mehdi (2019) found that teachers could benefit from cooperative learning as it increases the confidence and motivation of their learners. Munir, Baroutian, Young and Carter (2018) found classrooms that included cooperative learning helped students to develop their learning and critical analysis skills. Cooperative learning was also found to increase students' communication skills

and to build teamwork and problem-solving skills among themselves. The study however notes that to achieve the desired results, a lot of work needs to be done by all stakeholders involved.

The study additionally finds that differentiated learning especially when applied through working systems that focus on factors that affect different students in different learning domains can be largely beneficial. Different techniques can define a set of rules to decide the most preferred learning environment. Differentiated learning can be designed to evaluate and validate the different learning environments for different learners. The results show that the model can improve the implementation of appropriate learning strategies with high accuracy and sensitivity for both learning and non-learning-disabled users (Thapliyal, Ahuja, Shankar, Cheng & Kumar, 2021). Differentiated learning strategy adds value and enhances the online learning provided by learning institutions especially with the changes in technology and online learning. Today's computer-mediated, networked learning environments can support differentiated learning on multiple dimensions, where students are able to work at their own pace, choose their own topics within a general disciplinary rubric, and offer each other feedback in such a way that differences in perspective further enhance the learning process (Montebello, Pinheiro, Cope, Kalantzis, Haniya, Tzirides & Searsmith, 2018).

The study further found that behavior management as an educational strategy has a positive effect on performance of students. Wheldall and Merrett (2017) found that positive teaching should include praise and approval from teachers and reduce disapprovals and reprimands on the students. However, praise may or may not act as positive reinforcement and that teachers can use praise for other purposes. The findings also established that engaging in problem-solving activities had a significant effect on learning achievements. The findings also show that engaging in activities of self-assessment and self-reflection had a significant effect on engagement of problem-solving activities. Based on these findings, the study argues that the design of attractive and progressive problem-solving activities is at the heart of an effective flipped classroom, and promoting a learning culture of self-reflection and self-assessment helps trigger active engagements in other online learning activities.

## 5.1 Conclusions

The shift to online learning has presented institutions of higher learning in Kenya with new challenges. There are concerns that the transition to online learning may not be smooth and that there will be a decline in the quality of education received. As a result, the study sought to establish the influence of educational strategies on online learning in institutions of higher learning in Kenya amid the Covid-19 pandemic. Cooperative learning, differentiation education strategy and behavior management educational strategies had positive influences on online learning in these institutions. The overriding theme in the application of the three educational strategies is that learning should be student based and focus should be on the learning process. The study concludes that the educational strategies have a positive influence on online learning and can be applied individually or collectively depending on the circumstances.

## 6.1 Recommendations

In line with the findings, the study makes the following recommendations; institutions of higher learning in Kenya should apply cooperative learning activities in online learning. By making the students actively involved in the learning process, they are more motivated to take part and to share different perspectives, this is a key part of learning especially in tertiary institutions because it

<https://doi.org/10.53819/81018102t2023>

encourages critical thinking. The study also recommends that institutions should also use differentiation strategy to use different techniques for different students. While this requires more work from all stakeholders involved, it brings out the best of all students by focusing on them individually rather than using a one size fits all approach. The study further recommends that institutions of higher learning apply the behavioral approach technique by encouraging good behaviors by praise and motivation. This helps to create an environment where the students engage in self-reflection and self-assessment leading them to engage in online learning activities more openly.

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