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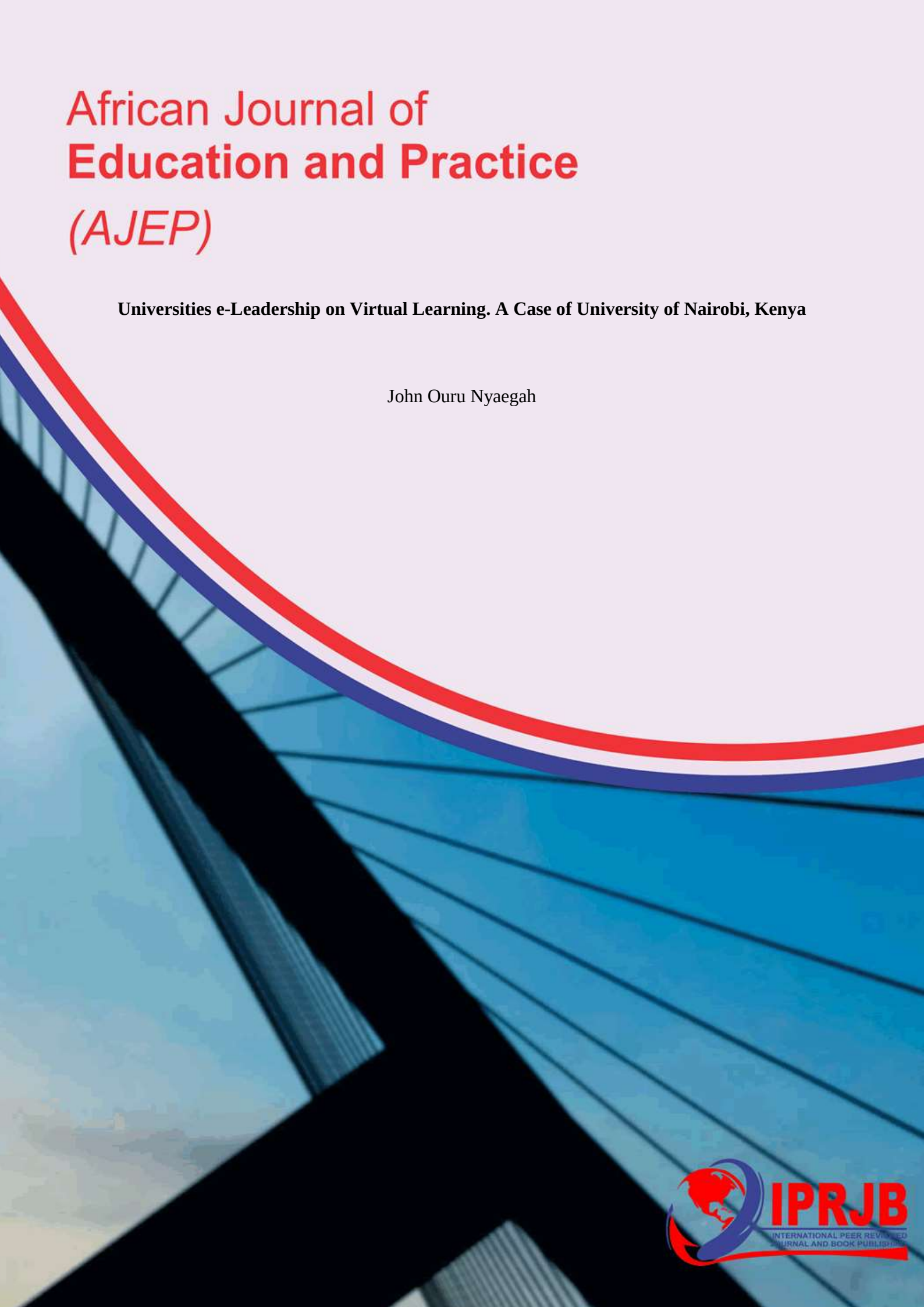

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Universities e-Leadership on Virtual Learning. A Case of University of Nairobi, Kenya

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Abstract

Purpose: The purpose of this study was to assess the role of e-Leadership in providing Virtual Education.

Methodology: The research methodology used in this paper was Desktop Review commonly referred to as secondary data which basically collects data from the existing reference materials most preferably because of its affordability compared to a field research. The study focused mainly on published studies and reports which were accessed through online journals and also libraries.

Findings: To successfully establish and implement virtual learning programs in universities, a focused, sound and clear e-leadership is very critical. Besides, the University of Nairobi needs to urgently put plans in place for building a resilient e-Leadership system that will enhance effective skill development for e-service delivery, and productivity among students.In order to standardize and ensure high quality education, virtual learning training sessions are needed so as to boost e-learning standards in the university.

Unique Contribution to Theory, Practice and Policy: The study applied Diffusion of Innovation framework which helps leaders and classroom instructors to understand various ways modern technology is used to support instruction and bring about effective content delivery. Based on Diffusion of Innovation Theory, the study encourages educators to continuously improve their mindsets and continually focus on their own self-assessment and their adaptation to new innovations. Change Management Models and Diffusion of Innovation theory were used to justify existing synergy in universities, their leadership and Virtual Education Programs that are aimed at enhancing lecturers' practical and theoretical training. The study helps to equip classroom instructors with needed skills for incorporating modern technology in their physical and virtual classrooms effectively with a continuous enhancement of their teaching and learning experiences. This study supports policy development which mandates continuous professional development. It is hoped that the literature of this paper will shape and guide academic discourse on e-Leadership concept with a view to understanding the applicability of the concepts and challenges provided for effective adoption.

Keywords: *Desktop Review, e-Leadership, e-Readiness, Google Classroom, Virtual Learning Programs*

INTRODUCTION

This paper discusses the role of e-Leadership on implementation of online educational programs at the University of Nairobi during COVID 19 pandemic. The paper provides attempts to examine the road map used by the University of Nairobi to roll out virtual educational programs in response to the virus' containment measures. Using relevant theories and relevant literature, the paper tries to shade light on appropriate e-leadership environment required to implement virtual programs. Virtual Learning Programs in this paper will be synonymous with e-learning. In this case therefore, virtual programs will imply all the programs designed either synchronously or asynchronously and are facilitated online through network technologies backed with policies, structures and budgets.

Carreno (2008) observes that leadership at university level can be seen as the process of enlisting and guiding the talents and energies of lecturers, students and stakeholders such as parents towards achieving common university educational aims. University leaders are responsible for educational programs and learning outcomes, the management and professional development of their staff, school finance and property and the relationships between the school and its community. Due to the ongoing digital revolution, leadership concept has taken a different dimension just like other concepts such as e-government, e-participation and e-administration which explains governments' interaction with public (Wart.M.V, Roma. A, Wang.X and Liu. C., 2017).

Education Research scholars perceive e-Leadership as a new leadership paradigm which requires those occupying high level leadership positions in universities to achieve leadership objectives in a computer-mediated approach and work with virtual teams that are dispersed over space and time. The leaders and followers' main channel of communication among them, as noted by Trived and Desai, (2012), need to be the electronic conduit supported by computers. This simply means technology mediated leadership as observed by Wart. *et al*., (2017). In this paper, e-leadership will include the entire process through which University leadership guides energies and talents of lecturers, students and stakeholders to achieve university objectives which include teaching, learning, research and community work.

Virtual learning programs provide a 'flexible learning environment using ICT resources, tools and applications, focusing on accessing information, interaction among lecturers, learners, and the online environment, collaborative learning, and production of materials, resources and learning experiences (Bagarukayo and Kalema, 2015). Mlitwa & Van Belle, (2011) adds that such programs utilize technological interventions for teaching, learning and assessment. In this paper, in an effort to explore the model used by University of Nairobi to implement virtual programs during COVID 19 pandemic and thereafter, various conditions such as provision for policies, structure, and budgets are discussed. Also the necessary precondition for online teaching, learning and assessment are examined.

University of Nairobi has been running virtual programs in the name of Open Learning and Distance Education since 1950s. The practice of distance education in the university dates back to 1967 when the Correspondence Course Unit at the Institute of Adult Studies in the university was established with USAID's support. School of Continuing and Distance Education Department established under College of Education and External Studies (CEES) implemented Programs related to distance education as per 2020 University of Nairobi records. The university has a total of 600 programs which before COVID19 were delivered through face to face mode in its ten faculties.

During COVID19 pandemic, the president of the Republic of Kenya on Sunday 15th March 2020 issued a statement which required all universities' Vice Chancellors to close down their institutions by Friday March 20th 2020 so as to counter the spread of the deadly virus. In response to the president's directive, special Senate meetings were held which were then followed by the special University Executive Board (UEB) meeting. As a result of the deliberations of these meetings, the university then closed on March 17th 2020. The university's management organ, resolved that all learning and teaching be conducted virtually (Mohamud 2020). Commission for University Education issued new regulations for online learning and examinations which gave guidance on how such online lessons and examinations were going to be handled (Colfax. *et al*., 2009). The university's Deputy Vice-Chancellor in charge of Academic Affairs spearheaded the sensitization on examination policy, guidelines, and procedures to all faculty and administrative staff in all colleges and Campuses. The staff and students were then trained on the available tools for online examinations between March and April 2020. Online teaching and examinations have since taken place in the university.

The rate at which technology is growing in the area of Information Technology (IT) industries globally, has caused demand in program management solutions where programs are completed within a defined cost constraint, time and scope. Program implementation is the phase where planned actions are executed, and it entails the use of resources to meet the program's predetermined deliverables. According to Mburugu *et al.*, (2017) program implementation involves initiating a system from beginning of an idea, evaluation, design, installation and management of the developed system. This is supported by (Mok, Xiong & Bin, 2021) in their study where they viewed implementation as a course of influence and as a collaboration system between the developer and user while solving a problem. Implementation is referred to as the last stage in the innovation initiative of an organization.

According to (Mercader, & Gairín 2020) in their study on electronic record management system implementation referred to implementation as the phase where Installation and maintenance activities are undertaken and the expected benefits from the innovation are realized by the organization. However, they reviewed that inadequate user development and lack of design are major pointers of electronic system implementation challenge. This could be true to all electronic system including virtual learning programs as development of the system must take place which involves hardware and communication infrastructure for the installation to be realized. Implementation of IT systems is a process which can be broken down into designing IT system, building up and facilitating human resource procedures to assist the customer and handling the implementation process itself (Callo, & Yazon 2020). It may be argued that program implementation is a contentious topic hence a scientific research aimed at shedding more light on the implementation of these programs is key.

Statement of the Problem

Implementation of any innovative related technologies is based on availability of ICT infrastructure which measures a university's readiness. ICT infrastructure signifies extensive technologies that support universities in coordinating efficiently and is critical to daily operations of a university and is vital to effective and efficient learning and service delivery. ICT facilities such as hardware, connectivity of internet, reliability, software, energy sources and data storage facilities like disks, DVDs, CD-ROMs are mostly common types of ICT infrastructure any university needs in order to run its programs effectively (Lee, & Jung 2021). He notes that e-readiness started with an effort to offer regular framework to assess the degree of the digital divide between the developing and the developed nations and can therefore be

described as how educational institutions particularly universities are capable of participating in the digital economy. IT settings today need the program managers to acquire extra abilities in addition to technical skills, like e-leadership and communication (Littlejohn et al., 2021). In their study on IT programs managers' competencies and IT programs implementation in Brazilian universities argued that team administration, knowledge of content domain, communication skills and program administration are the most relevant competencies of IT managers which influences virtual learning programs' implementation and therefore performance. This was backed by Liu et al., (2020) where they maintained that IT environment is demanding, challenging and vibrant and therefore university managers are obligated to transact with users, expertise, and miscommunication and work stress often. Therefore, they recommended that they need to acquire an expanded range of abilities in order to perform.

Although top managements of public universities made efforts to transit their programs to online platforms, it took some universities more than one year to start virtual learning lessons in their colleges and campuses (Aduda 2020). Many students were at home without any clear direction as to when they were going to open their campuses and resume learning. Majority of them were not aware there was a possibility of learning online and so they kept on wishing COVID-19 pandemic could end so that they get back to their campuses. Some universities' managements too did not know how effective online learning was going to be and thus were also waiting for the pandemic to end so that they could recall their students to campuses and resume face to face learning (Mittal et al., 2021).

University of Nairobi took the lead in starting online lessons by first training its lecturers across its campuses on how to use online platforms such as Google Meets, Zoom, WhatSapp, E-Mails, Google Classrooms, among others, to teach their students (Aduda 2020). Several training sessions involving lecturers were held in the months of March and April 2020 followed by training sessions for students thereafter who learned how they could use their smart phones to attend online classes and as a result online lessons started in May 2020. Other public universities followed suit thereafter though with many challenges. It became clear that universities needed e-Leadership in order for them to successfully offer virtual learning programs. Those universities whose Vice-Chancellors and Deputy-Vice Chancellors in charge of Academic Affairs had some knowledge and skills on how to use modern technology to teach, they followed, through their ICT departments, in guiding their lecturers and students on how they could handle virtual lessons (Mohamud 2020).

In this study therefore, the researcher sought answers to questions such as: What made University of Nairobi be the first to start online learning in the country? Why has University of Nairobi continued to be the leader in virtual learning in the country? What made other public universities lag behind in transiting to online learning immediately COVID-19 was declared a pandemic in the country? How did University of Nairobi's top management handle virtual learning during the pandemic? It is important to note that, issues such as the need to have effective and efficient e-leadership in universities, the need to procure the right hardware, Eco-system and software, the need to align training content with actual virtual classroom needs, the sustainability of training impacts, and the adequacy of ICT support structures for lecturers' post-training are continually highlighted as areas that call for attention (Pokhrel, & Chhetri 2021) hence the need for this study.

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Theoretical Framework

Model for Implementing Virtual Educational Programs

The university has a total of 7 colleges with over 600 programs which have in the past been delivered through face to face mode of delivery except two programs in the College of Education and External studies. It is therefore important to establish the positions of the faculties in the various colleges in relation to e-leadership. As a result of the deliberations of the Senate and the university Council, all learning and teaching was to be conducted virtually and the process adopted the model shown in figure 1 below:

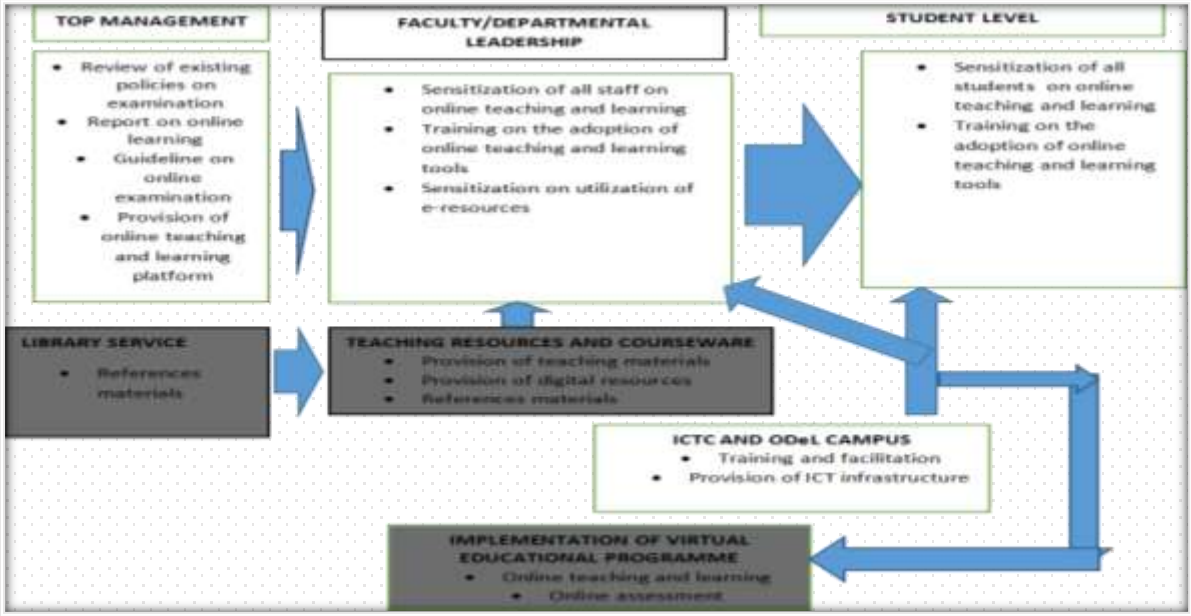

Figure 1: Virtual Learning Model Adopted by University of Nairobi

Source: Self

New regulations for online learning and examinations were then set which gave guidance on how such online lessons and examinations were going to be handled. The DVC (AA) spearheaded the sensitization on examination policy, guidelines, and procedures to all faculty and administrative staff in all colleges and Campuses. The staff and students were then trained on the available tools for online examinations between March and April 2020. Online teaching and examination have since taken place at the university for the continuing students. Figure 1 given above highlights on the journey the University of Nairobi went through in adopting virtual education from March 2020. Before then, teaching, learning and assessments were mostly conducted through face to face. In order to transit to virtual education, the University through the senate reviewed various teaching and learning processes which led to a number of reports that aided the transition to virtual teaching and learning. Among the reports, was that written by Senate Sub-committee on Review of Procedure for Examination and the one from Online Teaching and Learning Sub-committee of the Senate as noted by (Mohamud 2020). Subsequently, this led to the passing of Examination Policy, Guidelines, and Procedures which incorporated the findings of the two reports thus setting the stage for transition from the traditional face to face learning or teaching in a lecture theatre to learning through virtual platforms.

The next stage was to sensitize members of staff, students and the entire University community on online learning. Both staff and students were taken through rigorous training sessions on online teaching and learning and how to use online teaching tools and technology such as those provided by Google suites, Zoom, and Microsoft teams. Staff and students were also trained on how to access e- resources from the Library services departments. The training was spearheaded by a committee formed by experts from ICT centre and ODeL Campus of the university. In addition to provision of ICT infrastructure, the university collaborated with one of the local network providing companies to provide data bundles to staff and students. As a result of this a number of academic staff was able to conduct online teaching and learning as well as conduct meetings (Mohamud 2020).

Application of the Diffusion Innovations Theory to Change Management Models

While transiting from the traditional face to face mode of content delivery to virtual learning, the University of Nairobi's top management had no option left but to embrace use of technology in order to remain relevant and to achieve this, the Vice Chancellor and all his Deputy Vice Chancellors had to fundamentally rely on Diffusion of Innovations Theory advanced by Rogers (2003) which is a theoretical Framework that has widely been used in the area of technology diffusion and adoption. As Rogers, (2003) observes, "A technology is a design for instrumental action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome" (p. 13). For the vice chancellor and his deputy vice chancellors, they had to clear the uncertainty that had gripped the university by quickly adopting e-leadership skills which were a requirement since everyone was now working from home and all students were waiting to be told how they were going to continue with their learning.

In order for the Vice chancellor and the Deputy Vice chancellor in charge of academic affairs to ensure university had to move on with its programs in all its seven colleges, schools and departments, the ICT department was brought on board to give guidance on the possibility of offering online learning to all students. In doing this, the university was guided by Five (5) Change Management Models: Lewin's Change Management Model; McKinsey 7-S Model; Kotter's 8 steps for leading change; ADKAR Change Management Model and Nudge theory which encourages members of a team to come together in times of a calamity, or presence of a challenge and try to look for a solution. Lewin's Theory which was propounded in the year 1950 divides change process into three steps: Unfreeze, Change and Refreeze where he says leaders need to analyze how things are currently in order to understand the kind of change that is needed after-which they implement change management communication so as to communicate to staff appropriately. As the leaders continue communicating to staff, they enter implementation stage where they have to put the desired change into practice, which in our study was the implementation of virtual learning programs, and give the implementers needed support. The last step according to Lewin's theory is where the leaders refreeze to avoid going back to the old way of doing things. Lecturers had to put their face to face method of teaching which they were used to and think about how they were going to deliver content through the available virtual platforms. At this step of Lewin's theory, leaders look unto how the new processes work and try by all means to measure all change management metrics and also all key performance indicators so as to establish how set goals have to be accomplished.

In order to apply McKinsey 7-S Model, University of Nairobi leaders needed to strategize on what they wanted to achieve, reflect on how tasks were going to be divided among-est staff, establish whether the university had enough technology systems that were needed to bring

about the desired results in online learning, check whether staff had shared core beliefs and principles that would guide their behaviors and decision making processes, ascertain whether ICT staff had the abilities and expertise required in guiding the rest of the staff accordingly and also define staff roles appropriately. In their effort to work together as a social team to alleviate this problem as guided by the Change Management Models which the university adopted, they had to closely deal with the four key elements in the 'Diffusion of Innovations Theory which are; Innovation, Communication Channels, Time and Social system, if they were going to offer the e-leadership that was so much required of them (Ramlo 2021). After the ICT experts gave guidelines which were to be followed in order to offer programs online, a meeting of the Senate was held in line with the adopted model where it was agreed that all principals, Campus Directors, Deans of Schools, Departmental heads and Regional Coordinators be mobilized in order to deal with these key elements of the Diffusion of Innovations Theory by way of undergoing training so as to effectively offer e-leadership in their areas of jurisdiction and this is how they dealt with them;

Innovation: According to Rogers "An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (Rogers, 2003, p. 12). Though use of technology to offer online learning was regarded as a new innovation by University of Nairobi's leadership, it must be born in mind that many universities in developed countries in Europe have for many years been using this technology to offer online learning to their students therefore making it an old norm which they are used to using (Salas-Pilco,Yang & Zhang 2022). However, as observed by Rogers (2003, p.12) an innovation which may have been in use over a long period of time would appear new to those using it for the first time since they have never known how it is used. The University of Nairobi was using technology to offer online lessons for the first time hence making its leadership perceive use of technology as a new innovation. The newness characteristic of an adoption is more related to the three steps knowledge, persuasion, and decision of the innovation-decision process as observed by Rogers (2003). In addition, Rogers claimed there is a lack of diffusion research on technology clusters.

For Rogers (2003), "a technology cluster consists of one or more distinguishable elements of technology that are perceived as being closely interrelated" (p. 14). Guided by the Refine Models, the ICT experts together with the college Principals, Directors, Deans, Departmental heads and regional coordinators, selected suitable tools which were perceived to be suitable for use in offering and receiving online lessons to students and by lecturers. ODeL Campus academic staff members of the university took the lead in sensitizing all the other staff members on how students were going to be trained and sensitized so as to embrace online learning as a new normal in the era of COVID19 pandemic. To reduce the uncertainty which characterized the adoption of online learning, academic staff members of faculties and all support staff were trained and informed about the merits and demerits of using technology to offer online learning during COVID19 pandemic and this made them fully aware of all its consequences which included expected complaints from both staff and students on unreliable networks, lack of required tools for use, power blackouts, only but a few to mention. Moreover, Rogers (2003, p. 14) claimed that consequences can be classified as desirable versus undesirable, functional or dysfunctional, direct versus indirect, immediate result or result of the immediate result, and anticipated versus unanticipated, recognized and intended or not. Staff members were sensitized on the possibility of meeting all these consequences while in the process of implementing the new policy of shifting learning from use of face-to-face mode to virtual learning mode.

Communication Channels: Communication channels was the second element of the Diffusion of Innovations Theory top university management, Principals, Directors, Deans, Departmental Heads, Regional Coordinators and other staff had to deal with. Through their numerous training sessions, these leaders were expected to acquire skills necessary for them to communicate effectively to other staff and students. Despite the existing fears on the use of technology to work from their homes and deliver programs online, guided by the Refine Models, the leaders got fundamental e-leadership communication skills which they used to mobilize all staff and students for training. Online flow of information was clearly seen coming from the Vice Chancellor, Deputy Vice Chancellors, Faculty/School Leaders, Departmental heads, down to the Regional centers' Coordinators. The university ICT center became the main center of focus from which technology skill-based information trickled down from the Vice Chancellor, DVCs, Principals, Deans, Chairpersons of Departments down to all staff and students. It is therefore important to note here that, interpersonal channels are seen to be more powerful in bringing about change of attitude strongly held by an individual to adoption of new attitude. University leaders, as a result of attending to many training sessions, changed their negative attitude on use of technology to offer online programs.

In order for delivery of online lessons to be successful, staff and students were asked to acquire laptops and android phones and ensure the availability of reliable network wherever they were during the COVID19 pandemic era. The ICT experts had tested various apps that were available and came up with suitable ones which they advised staff and students to use. These apps ranged from Google Meet; Zoom; Webinar; Microsoft Teams, Google Classroom; WhatsApp; among others. Every school was involved in selecting the most suitable app to use in line with the adopted Refine Models which encourages an all-inclusive decision making process and in the team work spirit envisaged by Diffusion Innovations Theory of Rogers (2003). Students who were at first having negative impressions on virtual learning ended up embracing it as the only available mode of content delivery that would be in use for as long as COVID19 pandemic was going to live with us. This change of attitude was attributed to able e-leadership that was shown by university leaders.

Time: As observed by Rogers (2003), most behavioral researches done in the past tended to ignore the element of time which is always believed to be a key determinant of success in whatever one engages in. The university's e-leadership has clearly been seen during this time of COVID19 pandemic and thereafter where stringent measures were put in place to ensure learning went on despite the virus' scorching effects. The use of technology to offer programs online came in handy to cushion students from the stress that was brought about by the pandemic. ODeL Campus for example, through adoption of online learning was able to complete the syllabus and even offer Open Book examinations to all its students scattered across the country.

Social System: In the Diffusion Innovations theory, the social system is listed as the last element in the diffusion process. Rogers (2003) defines the social system as "a set of interrelated units engaged in joint problem solving to accomplish a common goal" (p. 23). The University of Nairobi was faced with an enormous problem which threatened its operations as an institution of higher learning and had to provide e-leadership in adoption of technology so as to remain relevant. Since diffusion of innovations takes place in the social system, it is influenced by the social structure of the social system. For Rogers (2003), structure is "the patterned arrangements of the units in a system" (p. 24). He further observes that the nature of the social system affects individuals' ability to innovate, which is the main criterion for

categorizing adopters. This was observed in the university as lower cadre staff and students waited for instructions on what was to be done during the pandemic period from the university's top leadership. This is because, this category of staff was also expected to offer e-leadership to those that worked under them.

Empirical Literature

This paper is hinged on the Theory of Diffusion of Innovations propounded by Rogers (2003). The theory explains how and why ideas and technology spread so fast globally. Besides, it also explains the rate at which this is done. In their contribution to this theory, Resch, Alnahdi & Schwab (2022) points out that those innovations whose intention is to make work much easier are adopted fast enough compared to those whose focus is elsewhere. Some of the barriers that must be taken to account when working with innovation and technology are; relative complexity and knowledge requirements. In enhancing transition to online teaching and learning intensive training and personalized support was provided at faculty and departmental level. This had an impact on the adoption of online teaching, learning and assessment in the university (Resch, Alnahdi & Schwab (2022).

Wart. *et al*., (2017) reviewed a case study e-teaching as an example of e-leadership and using logical similarities, they grouped the 15 issues identified into six skill-based competencies that successful e-leaders should aim to master. The competencies are: e-communication, e-social skills, e-team building skills, e-change management, e-technological skills, and e-trustworthiness. Trivedi and Desai, (2012) reviewed a number of articles on e-leadership and concluded that e-leadership convey certain opportunities which include: the ability to instantly communicate one-on-one with potentially thousands of employees; the capability to use talent that does not necessarily live within driving distance from the office; the opportunity to enhance organizational performance by assembling multi-functional teams that are richer because one can now cherry pick the talent one desires from wherever it may exist; the ability to target better customer satisfaction by providing 24x7 service using the 'Follow the Sun Methodology'; and the ability to cut costs.

Apart from the opportunities, Trivedi and Desai (2012) also identified some key challenges for e-leaders as follows; communicating effectively through the electronic medium; communicating enthusiasm digitally; building trust with someone who may never see the leader; creating a viable electronic presence; inspiring far flung team members; mentoring virtual employees; monitoring and controlling social loafing; preventing lack of technical competence from affecting performance; and maintaining work-life balance and helping followers maintain work-life balance in this new 24x7 paradigm. Some of the new skills required by the e-leader are: (a) stronger written communication skills; (b) strong social networking skills; (c) a global, multicultural mindset; (d) greater sensitivity towards followers' state of mind; and (e) a 24x7 orientation. E-leadership is mostly about the need to lead geographically dispersed teams, called virtual teams

METHODOLOGY

The researcher in this study adopted a Desktop Research Design as his research methodology. The researcher found this method, which is also referred to as secondary data, most suitable for the study because it enabled him to basically collect data which was already existing in reference materials such as past published studies, policy documents, available virtual programs guidelines, books, only but a few to mention, found within the university and in the libraries. Besides, the design also provided the researcher with solid arguments and helped him

in elaborating e-Leadership which in the study was his line of thought in the implementation of virtual learning programs. Since the author of this paper was facilitated, some processes which helped the university transit to online self-evaluation and personal experiences were used to supplement the literature gathered.The design is preferred in research because of its low-cost advantage when compared to field research and in this study, it provided the researcher with useful information that could support and guide universities in decision-making processes.

FINDINGS

The researcher in this study analyzed the results based on three major research gap categories that is, Conceptual, Contextual and Methodological gaps and then presented his findings as presented below:

Conceptual Gaps: Scherer, *et al.,* (2021) observes that, while lecturers' virtual training goes along way into improving asynchronous and synchronous teaching methodologies, the improvements' long term sustainability without continued support from universities' top managements remains unclear and this therefore identifies a gap in our understanding on how long the effects of such training lasts. Besides, as researchers, we are left with no clarity on the factors which contribute towards the sustainability of these effects over time. Sum, & Oancea (2021) highlights the need for continuous updates in training content which he says must include the latest technological advancements realized so far globally. This therefore suggests a conceptual gap in the existing research in regard to how continuously evolving digital tools can be integrated effectively and timely into virtual professional development programs. Talib, Bettayeb & Omer (2021) noted the potential benefits of peer mentoring which is intended to enhance the effectiveness of constructivist - based virtual training programs. This in essence therefore, points to a gap in exploring how structured peer mentoring could be incorporated into professional development to enhance learning outcomes in learning institutions further.

Contextual Gaps: Talib, Bettayeb & Omer (2021) have observed that there is need for universities and other institutions of higher learning to look into the possibility of exploring the scalability of their virtual training programs across their various colleges, faculties and departments or in general across various educational settings. This therefore is a clear indication that there exists a contextual research gap in determining how such virtual lecturer training programs can be adapted to different learning environments within their campuses or regions with varying resources, needs and varying ecosystems. The study by Sum, & Oancea (2021) in remote areas or rural settings suggests a big gap in our understanding on how virtual lecturer training programs need to be modified so that they become equally effective in the rural and urban settings where financial resources, lecturer backgrounds and learner needs are likely to significantly vary.

Geographical Gaps: Tartavulea et al., (2020) in their study on integration of ICT in Tertiary Institutions of learning have given special focus on specific educational practices without showing whether these findings can be generalized globally and this therefore opens up a geographical gap where research can be done to establish how the training methods used in training lecturers on how to prepare and present content in online classes work across diverse cultural settings and educational systems. The efficiency and effectiveness of multicultural education training by Tejedor *et al.,* (2020) suggests that lecturers' level of e-preparedness can significantly impact learner outcomes in culturally diverse settings. Nonetheless, how these findings translate to educational systems outside studied geographical scopes is not clear which

is an indication therefore that there is a need for researchers to further carry out an investigation into different universities' educational policies and cultural norms.

CONCLUSION AND RECOMMENDATIONS

Conclusions

This paper in its review of literature observes that, e-leadership will in future become a significant part of educational leadership only if more ICT environments are established and developed in higher educational settings such as universities. According to Tejedor *et al.,* (2020), there is limited current literature on e-leadership that specifically introduces the concept of e-leadership through an empirical study. Therefore, introduction of e-leadership in all institutions of higher education in the country will be important for empirical research on e-leadership to examine the differences in non-educational settings. Targeted interventions which could create a positive space for studying among all students from vulnerable regions of society are needed in order to make every student to adopt e-learning regardless of where he or she comes from. Strategies are urgently needed to build a resilient education system in the university that will enhance effective skill development for possible job opportunities and productivity purposes among students (Talib, Bettayeb & Omer 2021).

It is incumbent upon the University of Nairobi's e-leadership to come up with a uniform academic plan that will strictly be applied to all students learning in all colleges and ensure there is continued learning during an outbreak of any contagious disease. The paper further recommends that, not only should universities e-leaders ensure adequate infrastructural facilities in all campuses but also must ensure that those infrastructural facilities they come up with conforms to the Ministry of Health's set health standards. Finally, it suffices to say that, universities' e-leadership need to come up with a resilient education system which will enhance effective skill development amongst students who are learning in all their campuses.

Recommendations

Theory

University managers' e-Leadership helps in coordinating and integrating traditional face to face method of teaching, which is known to be enhancing lecturer-learner engagement with online teaching by aligning educational content with the social and traditional context of learners. The study applies Diffusion of Innovation framework which helps leaders and classroom instructors to understand various ways modern technology can be used to support classroom instruction and bring about effective content delivery to the learner. Based on Diffusion of Innovation Theory, the study encourages educators to continuously improve their mindset and continually focus on their own self-assessment and their adaptation to new innovations. The study makes use of Refine Models and Diffusion of Innovation theory to justify existing synergy between universities, their leadership and Virtual Education Programs whose ultimate end result is to enhance lecturers' practical and theoretical training. Besides, this study uses theories of all inclusive leadership and learning to ensure virtual training programs prepare educators so that they are able to meet learners' diverse needs especially those who are physically challenged and who therefore have special educational needs.

Practice

The study helps in facilitating instructional materials' development which reflects on local realities and which may improve learner's content comprehension and retention abilities. Besides, it helps to equip classroom instructors with needed skills for incorporating modern

technology in their physical and virtual classrooms effectively and thus enhancing their teaching and learning experiences continually. This also helps in implementing day today teacher-learner feedback and reflection mechanisms within instructors' virtual training programs as well as enabling educators to evolve their approaches and pedagogical skills that are based on contemporary world's experiences and realities. The study findings are likely to establish relationships between e-leaders, learners and instructors that are sustainable and which allows resource mobilization and hence bring about instructor training curricula enrichment. Classroom instructors are likely to be provided with practical skills for handling physical and blended lessons in differentiated instruction and come up with special education frameworks which will help in promoting equity and access to content by all learners in their classrooms.

Policy

The study findings promotes educator-based instructional policies which require educator training programs to bring on board locally available content which will make learning to be contextually relevant to all learners. Besides, the study brings content taught in universities to focus and recommends the creation of high technological standards that are national in nature and in uniformity across all universities and which ensures consistency and digital integration that is comprehensive enough across virtual educator training programs. The study supports policy development which mandates continuous professional development and which also reflects on professional and ethical practices that foster a culture of lifelong learning amongest all learner categories.

REFERENCES

Aduda B (2020) Report of Senate Sub-Committee on Review of the Procedure for Examinations; University of Nairobi

Bagarukayo E and Kalema, B., (2015) Evaluation of e-Learning usage in South African universities: A critical review: International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2015, Vol. 11, Issue 2, pp. 168-183

Callo, E. C., & Yazon, A. D. (2020). Exploring the factors influencing the readiness of faculty and students on online teaching and learning as an alternative delivery mode for the new normal. Universal Journal of Educational Research, 8(8), 3509–3518. https://doi.org/10.13189/ujer.2020.080826

Carreno, I. G. (2008). E-mentoring and e-leadership importance in the quality of distance and virtual education Century XXI. Paper from m-ICTE 2009: Research, Reflections and Innovations in Integrating ICT in Education. Retrieved from http://www.formatex.org/micte2009/book/728-732.pdf.

Colfax, R. S., Santos, A. T., & Diego, J. (2009). Virtual leadership: A green possibility in critical times but can it really work? Journal of International Business Research, 8(2).

Lee, J., & Jung, I. (2021). Instructional changes instigated by university faculty during the COVID-19 pandemic: The effect of individual, course and institutional factors. *International Journal of Educational Technology in Higher Education, 18*, 52. https://doi.org/10.1186/s41239-021-00286-7

Littlejohn, A., Gourlay, L., Kennedy, E., Logan, K., Neumann, T., Oliver, M., Potter, J., & Rode, J. A. (2021). Moving teaching online: Cultural barriers experienced by university teachers during Covid-19. Journal of Interactive Media in Education, 1(7), 1–15. https://doi.org/10.5334/jime.631

Liu, Q., Geertshuis, S., & Grainger, R. (2020). Understanding academics' adoption of learning technologies: A systematic review. Computers & Education, 151, 103857. https://doi.org/10.1016/j.compedu.2020.103857

Mburugu, K. N., Mulwa, A. S. & Kyalo, D. N. (2017). Organizational culture and implementation of electronic project monitoring information system in public tertiary institutions in Kenya. International Academic Journal of Information Systems and Technology, 2(1), 61-77

Mercader, C., & Gairín, J. (2020). University teachers' perception of barriers to the use of digital technologies: The importance of the academic discipline. International Journal of Educational Technology in Higher Education, 17,4. https://doi.org/10.1186/s41239-020-0182-x

Mittal, A., Mantri, A., Tandon, U., & Dwivedi, Y. K. (2021). A unified perspective on the adoption of online teaching in higher education during the COVID-19 pandemic. Information Discovery and Delivery. https://doi.org/10.1108/IDD-09-2020-0114

Mohamud Jama (2020) Report Of The Senate Sub-Committee On Online Teaching And Learning; University of Nairobi

Mok, K. H., Xiong, W., & Bin Aedy Rahman, H. N. (2021). COVID-19 pandemic's disruption on university teaching and learning and competence cultivation: Student evaluation of online learning experiences in Hong Kong. International Journal of Chinese Education. https://doi.org/10.1177/22125868211007011

Mlitwa, W. & Van Belle, J. W. G. D. (2011). Mediators for lecturer perspectives on learning management systems at universities in the Western Cape, South Africa. In Proceedings of the Pacific Asia Conference on Information Systems (PACIS 2011), 2011, Brisbane, Australia. Brisbane: AIS Electronic Library.

Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future, 8*(1), 133–141. https://doi.org/10.1177/2347631120983481

Ramlo, S. (2021). The coronavirus and higher education: Faculty viewpoints about universities moving online during a worldwide pandemic. Innovative Higher Education, 46(3), 241–259. https://doi.org/10.1007/s10755-020-09532-8

Resch, K., Alnahdi, G., & Schwab, S. (2022). Exploring the effects of the COVID-19 emergency remote education on students' social and academic integration in higher education in Austria. Higher Education Research & Development. https://doi.org/10.1080/07294360.2022.2040446

Rogers, E. (2003). Diffusion of Innovations, 5th edition, Everett M. Rogers. Free Press, New York, NY (2003), 551 Pages. *Journal of Minimally Invasive Gynecology 14(6):776* DOI:10.1016/j.jmig.2007.07.001

Salas-Pilco, S. Z., Yang, Y., Zhang, Z. (2022). Student engagement in online learning in Latin American higher education during the COVID-19 pandemic: A systematic review. *British Journal of Educational Technology, 53*(3), 593–619.

Scherer, R., Howard, S. K., Tondeur, J., & Siddiq, F. (2021). Profling teachers' readiness for online teaching and learning in higher education: Who's ready? *Computers in Human Behavior, 118*, 106675. https://doi.org/10.1016/j.chb.2020.106675

Sum, M., & Oancea, A. (2021). Higher education teachers' perspectives on technology use in emergency remote teaching during the global pandemic: A systematic literature review. In Proceedings of the Yidan Prize Doctoral Conference (pp. 103-124). Department of Education, University of Oxford. https://yidanprize.org/files/Proceedings-of-the-2021-Yidan-Prize-Doctoral-Conference.pdf

Talib, M. A., Bettayeb, A. M., & Omer, R. I. (2021). Analytical study on the impact of technology in higher education during the age of COVID-19: Systematic literature review. *Education and Information Technologies, 26*, 6719–6746. https://doi.org/10.1007/s10639-021-10507-1

Tartavulea, C. V., Albu, C. N., Albu, N., Dieaconescu, R. I., & Petre, S. (2020). Online teaching practices and the effectiveness of the educational process in the wake of the COVID-19 pandemic. Amfiteatru Economic, 22(55), 920-936. https://doi.org/10.24818/EA/2020/55/920

Tejedor, S., Cervi, L., Tusa, F., & Parola, A. (2020). Education in times of pandemic: Reflections of students and teachers on virtual university education in Spain, Italy, and Ecuador. *Latin Journal of Social Communication, 78*, 19–40. https://doi.org/10.4185/RLCS-2020-1466

Trivedi. A and Desai. J, (2012); A review of literature on e-leadership; Shri Chimanbhai Patel Institutes, AhmedabadWorking Paper No. CPI/MBA/2012/0004.

Wart. M.V, Roma. A, Wang.X and Liu. C., (2017) operationalizing the definition of e-leadership: identifying the elements of e-leadership; International Review of Administrative Sciences