Original Article

OVERCOMING EDUCATIONAL DISRUPTIONS: EFFECTIVE MANAGEMENT TACTICS FOR COVID-19 CHALLENGES

[1] Joseph Kizito Mubiru and [2]Grace Nalubega Ssempala

[1,2]Uganda Management Institute, Uganda.

Abstract: Amidst the unprecedented challenges posed by the COVID-19 pandemic, governments, education systems, and educators worldwide are grappling with the task of ensuring continuity in learning while upholding quality education standards. This paper delves into the multifaceted issues arising from the pandemic's impact on education, addressing questions surrounding the return of students to schools, the potential survival of educational institutions amidst declining enrollments, and the logistical challenges of accommodating increased student numbers while adhering to social distancing measures. Additionally, it explores uncertainties regarding technology adoption among staff and students, considering the existing infrastructure limitations, as well as the financial burdens faced by parents and guardians. Amidst these challenges, institutions are navigating the transition to online blended learning, albeit with concerns about instructor compliance, parental cooperation, and students' accessibility to online classes. By examining these complex dynamics, this paper aims to shed light on the evolving landscape of education in the wake of the COVID-19 pandemic, offering insights into the challenges and opportunities that lie ahead.

Keywords: COVID-19 pandemic, Education continuity, Online blended learning, Educational challenges, Technology adoption.

INTRODUCTION

As students and parents experience extraordinary ripple effect of coronavirus, governments, education systems and educators are obstinately and collectively devising alternative modes of delivery to continue with learning - while improvising strategies to uphold quality education for all. Yet, with countries still facing a myriad of covid-19 pandemic, there are still many unanswered questions such as; 'will schools get their students back after the longest ever holiday in the history of education?' or 'will schools survive if students' numbers decline and

others drop-out' completely? or 'will schools handle if they get an overflow of students' enrollment for the existing facilities with strict guidelines of social-distancing? Of course, not forgetting the question of uncertainties regarding technology use perception from both staff and students, given the unreliable infrastructure' and 'parents/ guardians who may still be traumatized. More so, there is no assurance of instructors' compliance, parents' cooperation, as well as learners' ability to meet the cost of on-line classes, yet institutions are busy preparing online blended learning (Tumwesige, 2020).

Meanwhile, instead of sacrificing the future of millions of young and expectant people, responses to the pandemic from the international education community has varied from heroic to problematic amidst all odds for the learning to continue (WHO, 2020a). Yet, while challenges in the provision of education in Uganda are getting more complex for the education actors, there seems to be discernible policy planning and monitoring uncertainties amongst the managers, because their normative agenda is being threatened with new education calendar, funding the new normal and ensuring that institutions are well prepared to provide quality education to the learners. Yet, even with all the uncertainties mentioned, society expects lasting solutions from education institutions in terms of compliance and order, but also on the way forward (Baggio, 2020).

Who is an education manager?

This paper adopts Cao's et al. (2020) definition of an

'education manager' as a person responsible for funding, setting priorities, planning, organization, and management of the educational approaches and strategies, used in pre-school, primary school, secondary school, or tertiary/university education from the sectoral to institutional level of education. Education managers execute numerous roles according to their jurisdictions (Jackson et al., 2014; Asian College of Teachers, 2018). At sectoral level, education managers include; the Minister of education, permanent secretary, directors (at various levels of education), commissioners, chairpersons of various education committees. These managers are responsible for funding education activities, planning, formulation of policies, monitoring, performance reviews and evaluations of educational programs (Kasozi, 2013). Similarly, the managers at this level are responsible for regulatory functions such as; accreditation of institutions and programs. At institutional level, the education manager is responsible for providing the vision and mission of the institution, strategic plans, rules and regulations, ensure that the institutions stay afloat, advice those at a higher level on alternative education strategies and initiatives, stay in touch with the learners and potential learners, set priorities for institutional activities and of course financing education institutions. The manager at institutional level includes; the vicechancellor, directors, principals or head teachers at lower levels of education. On the other hand, the manager at departmental level, is charged with the provision of managing curricula, guide the management team in undertaking various activities in the fulfilment of the institution's mandate and ensure that the quality of teaching and learning, take into consideration 'whole child/person development' (Sholts, 2020).

These include; heads of colleges/schools, directors of programs in different institutions etc. While at departmental level, the manager is responsible for guiding the management team in undertaking various activities in the fulfilment of the institution's mandate and ensuring quality of teaching and learning, taking into consideration 'competency-based training' and 'whole child/person development' (Sholts, 2020). However, considering the prevalence of Covid-19 pandemic, the manager is confronted with serious challenges on how to maneuver through all these impediments and still deliver quality, while observing health guidelines.

Original Article

Why the concern for education?

Since the medieval times, to the emergent of Millennium Development Goals (MDGs), and now the Sustainable Development Goals (SDGs), education has been recognized as an enabling right with a direct impact on all other human rights, a primary driver of progress across all seventeen (17) SDGs. It has also been acknowledged as bedrock of just, equal and inclusive peaceful societies and leads to all forms of development (UN, 2012). As an enabler to innovation, education has been embraced as a means to technical and social problem solving, through various trainings undertaken, including; doctors, nurses, sociologists, psychologists, economist, technologists, lawyers etc. who have relentlessly attempted to provide solutions in their respective disciplines as evidenced by the several webinars streaming across the globe since the invasion of covid-19, at the end of 2019. Unarguably therefore, education has a direct impact on the realization of all other human rights as well as a primary driver of progress across all 17 Sustainable Development Goals (UN, 2012). It is also a bedrock of just, equal and inclusive peaceful societies, and leads to all forms of development (UNESCO, 2020). Inevitably therefore, efforts for continuing learning is in the best interest of all stakeholders (WHO, 2020b; Dong et al., 2019). In an unfolding event however, while most education managers in developing countries are still struggling to get staff and students on board, those in the developed world have already adapted to the new normal of 'technology-mediated teaching and learning' - nudging the Fourth Industrial Revolution (4IR). This initiative, demands that each country and institution to streamline their own workable modes of operations for learning to continue (Namara et al., 2020). Similarly, while most urban (private) schools in Uganda have already devised ways to keep students engaged, the education manager in rural schools and low-income communities, is still struggling with the modalities of how to continue with the learning given that majority rural schools lack internet access, but also electronic devices like their counterparts in urban areas, such as; computers, radios, television set, tablets or even a smart phone – making the roles of education manager formidable (Tumwesige, 2020). Notwithstanding, although the current state of technology infrastructure in Uganda may be unreliable, urban schools are better off than their rural counterparts, which has deepened the already existing disparity between urban-rural divide. Notwithstanding, '*hope not all lost*' such demanded exponential transformations might potentially turn into opportunities for these managers to learn from the ongoing challenges.

Adoption of cybergogy and heutagogy in the era of Covid-19

Quite different from the two earlier models yearned for by educationists (*pedagogy and andragogy*), cybergogy and heutagogy are technology assisted models that help students find their own problems and questions to answer by seeking out areas of uncertainty and complexity in their areas of study (Iszatt-White et al., 2017).

Particularly, cybergogy values is affective as highly as cognitive learning, but also encourages current educational systems to value the learner over the curriculum, with considerable level of tolerance in the learning outcomes that may be less predictable, yet highly worthwhile. Therefore, cybergogy helps in teaching and preparing students to survive and adapt to tough times, such as pandemics and other disasters. In fact, Cybergogy has the potential to transform teaching and learning processes (Scopes, 2011).

Notwithstanding, cybergogy has been recognized as an innovative way of instructional design using ICT and cyberspace because it encourages both adults and children to effectively learn with minimal support from instructors.

Original Article

Similarly, heutagogy requires the most student maturity and the least instructor control, with the purpose of establishing an environment where learners can determine their own goals, learning paths, processes, and products (Namara et al., 2020). Derived from the Greek word *heuriskein*, meaning to 'discover' heutagogy underlies the etymology of the word heuristicthat – meaning method of teaching by allowing students to discover for themselves or 'self-learning' (Hase and Kenyon, 2013). Considering learning turbulences caused by Covid-19 pandemic, cybergogy seems as a perfect option to instill specific skills required today considering dramatic changes where the learners have evolved from passive recipient to analyst and synthesizers (Belt, 2014).

Therefore, heutagogy seems to be the best framework to close teaching and learning gap. Similarly, given that the key tenet of heutagogy is unfettered focus on student-centric instructional strategy and lifelong learning (Garnett and O'Beirne, 2013), the educational manager in the era of Covid-19, should adopt it in order to prepare students well not only for learning continuity, but also for the new-age demands of the new-age workplace.

Notably, for an institution to successfully implement heutagogy, there are four essential elements required to facilitate the model; (i) learner-defined learning contracts, (ii) flexible curriculum, (iii) flexible and negotiated assessment and (iv) collaborative learning (Moldoveanu and Narayandas, 2019). These elements were presumed by (Garnett and O'Beirne, 2013) to encourage learners to work together in person and digitally, not only to achieve a common goal, solve problems, practice concepts, experiment, but also reinforce their knowledge by sharing information and experiences (Richardson et al., 2017). Therefore, these collaborative sessions are an opportunity for students to learn from each other, as well as think about how they can apply their new skills in practice and sustain quality, regardless the disruptions caused by the pandemic.

The importance of 'quality education'

Quality was described as an amalgamation of two concepts; (a) the essential character with which something is identified or described, and (b) it is in reference to the extremely valued or grade of a particular merchandise, but also, an enigmas concept given that different situations demand different quality indicators by IUCEA (2010).

Similarly, Slade (2017) explained how 'q*uality education' should ensure inclusive and equitable quality education and promote lifelong learning". Hence, a* 'Quality Education' is one that is pedagogically and developmentally sound targeted to educate the student to become an active and productive member of society, and should therefore be inclusive and structured to realize the potential of each child regardless of location, economic status or level of disability (Slade, 2017). Therefore, the global consensus on the definition by the UN (2012), argues that education is a human right and a public good for the health and future of the world. Consequently, the call for a Quality Education – does not merely mean access to any education – but, for learners to have a quality education *(*Slade, 2017). Unfortunately, it may be next to impossible to nurture a pedagogically and developmentally sound 'child' as stipulated by the UN 2012.

The context and problem

After six months of the national lockdown of all businesses in Uganda, the government finally reached a decision to reopen all education institutions with effect from 15th October, 2020, following a series of meetings with the Covid-19 Task Force on the process beginning with the candidate classes (P7, S4, and S6), final year students in higher institutions of learning, international schools, as well as special needs' institutions. This decision was to enable them to complete their education cycles. Nevertheless, even with sufficient justification,

the public was skeptical due to uncertainties including; prevalence of covid-19 still biting hard, current economic conditions, high cost of transport and of course the proposed 'new normal' models of learning. Secondly, as education institutions reopened, they were warned against levying or increasing tuition fees, given that schools closed just one month (February to March, 2020) after students had reported, lack of income of majority of parents'/guardians for prolonged closure of business due to country's total locked down. The 'actionable guidance on admissible students of fifteen (15) students per class had become an issue of concern, until the number was raised to a reasonable number of seventy (70) students per class. Similarly, institutions had been advised to take advantage of all the available space in schools including; libraries, laboratories, dining halls, main halls. While institutions were to use safe temporary shelters, such as tents, and open-air spaces such as tree shades as temporary venues, schools with large numbers of candidates, were to operate either morning or afternoon shifts and devise an alternate-day attendance schedule (MoES, 2020).

Yet, even with the proposed cost-cutting measures, there was need to increase budgets in order for learning to successfully continue (Namara et al., 2020). Unfortunately, the decision to reopen caused a lot of tensions, skepticism and uncertainties among education managers as majority of staff and students had moved on with various types of economic activities. Meanwhile, majority of the school girls had become pregnant and others married off, as some parents saw it as the only source of income, especially in rural areas (Namara et al., 2020). On the other hand, some private schools had been turned into business ventures, thereby exacerbating school children drop-out, thereby widening the already existing gap in terms of equity, access and inclusivity. As the candidate classes completed their final examinations, the phased reopening for semi-candidate classes followed, but left many parents stuck with the rest of the children as most have outgrown their education levels. The paper was guided by three (3) questions; (1) what are the challenges confronting the education manager amidst Covid-19 Era? (2) How has the education managers at different levels responded to the Covid-19 pandemic to ensure learning continues? And (3) what are the mitigating measures that institutions have devised for similar occurrences?

METHODOLOGY

Considering the existing efforts by other researchers, this paper was based on secondary research using electronic databases, grey literature, reference harvesting, telephone interviews and discourse analysis, with weighted critical balanced views on the most suitable way forward regarding education in the era of covid-19. Hence, given that different countries have come up with different strategies, the paper largely relied on existing research-electronic databases, current literature on covid-19, and the recent national and global updates of electronic/virtual learning. Other strategies included telephone interviews and use of WhatsApp views on the challenges of the manager during the covid-19 pandemic. Specifically, emphasis was placed on the current state of the country's education system in comparison to recent national and global updates of electronic/virtual learning. Since different countries have come up with different strategies, the paper largely relied on existing research to solve problems together, to collaborate and to communicate in different ways, to educate and be educated in a different way (Murray and Lopez, 2020). The paper relied more on recent studies that focused on educational technology and technology in education as a result of COVID-19 global crisis as advocated by Chintalapudi et al. (2020). This methodology has been adopted by various researchers around the world as they attempt to find alternative

modes of teaching and learning for a paradigm shift from the face-to-face method to online learning teaching as supported by UNICEF (2020).

Theoretical orientation

This paper adopted two theories and a model explains the challenges faced by the education manager. The general systems theory as proposed by Bertalanffy (1972), explains how, just like body parts, education systems demand high levels of coordination and coherence. In principle, the theory propounds that the component parts of a system can best be understood in the context of complex of elements in mutual interaction/relationships with each other and with other systems, rather than in isolation (interconnectedness), which may be likened to all levels of education, the community, the sector and entire country. Yet, Covid-19 pandemic has disrupted such coordination, leaving all the decisions to be handled at sectoral level so as educational institutions can timely execute their already delayed activities. Specifically, the Sustainable Development Goal (SDG) No.4 advocates for 'quality education' of the whole child/person development by the UN (2012), (Slade, 2017) was adopted to explain the importance of quality education as institutions. Yet, 'quality education' is not one that is measured purely by a test score, instead, it focuses on 'whole child' (the social, emotional, mental, physical, and cognitive development of each student) - regardless of gender, race, ethnicity, socioeconomic status, or geographic location. Consequently, children should be pedagogically and developmentally helped to become full and productive citizens (Ban Ki-moon, 2012; Slade, 2017). Hence, in order to fulfill a quality education, there are three key pillars that should support it; (i) ensuring access to quality teachers (ii) providing use of quality learning tools and professional development; and (iii) the establishment of safe and supportive quality learning environments. Paradoxically, although the education manager must be cognizant of all these aspects as they devise alternative modes of delivery - including assessment, it is not clear how such requirements can be achieved with limited budgets, but also, amidst strict measures intended to mitigate the spread of Covid19 pandemic. On the other hand, Hase and Kenyon (2013) developed Heutagogy as a learning model for self-determined learners at higher education. They perceived the model to be useful for e-learning, with the assumption that students at this level are independent in reason. The model is highly recommended as an innovative method of virtual learning and it is best known for its double-looped learning which services more superior purpose given its ability to challenge the theories in use and values the assumptions rather than simply reacting to problems (Arghode et al., 2017; Adams, 2014).

FINDINGS AND DISCUSSION

Just like the national response, the education sector response took a top down approach and issued short term guidelines aimed to enhance adherence and alignment to the national guidelines. Other actors were brought on board to deliberate on the strategies for continued learning and prepare for the future. As educational institutions reopened for learning to continue, after locking down all businesses including education institutions, most institutions were faced with challenges as well as frustrations, especially in the alignment of the education calendar - which is one of the tools for the education manager to manage teaching and learning. The revised disorganized education activities such as; admissions, examinations, field attachments/internships, promotions, graduation etc. Aside the candidate classes, Tumwesige (2020), found serious challenges in the Ugandan education system as the country was still grappling not only with poorly developed ICT infrastructure and high bandwidth costs, but also, unreliable supply of electricity, a general lack of resources to meet a broad spectrum

of needs, significant barriers to access delivery platforms and of course the marginalized groups of society. Similarly, low preparedness of staff (both teaching and nonteaching) to manage the uncertainties in the environment although critical, has remained obscure – yet a milliard questions continue to confront the education manager. Unfortunately, the manager's hands remain 'tied' due to inadequate resources, poor infrastructure and unsustainable budgets – that have constrained the role of the education manager - causing institutions to collapse while some private schools remain permanently closed (Namara et al., 2020).

Strategies for learning continuity

In order to ensure that learning continues, various strategies were devised to achieve the most equitable education responses to Covid-19, including; '*a multimedia approach'* for delivery of learning materials through radio, TV, online and print materials – a strategy expected to reach all learners irrespective of their social and economic status and geographical location – but also one that should continue beyond Covid-19 (Uwezo, 2020).

Secondly, the '*distribution of print materials'* – an opportunity expected to continue making printed learning materials available to households, even after schools reopen. Thirdly, 'to *engage parents'* - for increased participation of parents, guardians, and other adults at home and also beyond the lockdown. Although all these interventions are aimed to provide answers for learning continuity, and also offer opportunities for overcoming geographical access and rigidities of conventional education, they may be far from addressing not only equity and participation, but quality in view of the Sustainable Development Goal No. 4, that advocates 'whole child/person development' (UN, 2012). Similarly, Uganda with its infrastructural challenges, inadequate teaching facilities, budgetary constraints, existing funding gaps (public vs private), and the urban - rural divide, provision of quality education might be an 'uphill task' for the manager in the covid-19 era. Therefore, institutions need to re-strategize their funding priorities in order to deliver quality education.

Sectoral level response

During Covid-19 lockdown, the MoES issued short term guidelines aimed to enhance adherence and alignment to the national guidelines. Brought on board other actors e.g. school/institutional leaders, the National Curriculum Development Centre (NCDC), Local Governments so as to have resemblance of continued learning and prepare for the future re-opening. The government of Uganda further constituted a sector response task force comprising of (*e.g. Education Directorates, Agencies and developing partner institutions, education sector and her agencies*) to develop and coordinate the education sector preparedness and response measures to mitigate the impact of the outbreak of COVID-19. The task force included institutional leaders, education agencies (e.g. National Curriculum Development Centre (NCDC), the Uganda's National Examinations' Board and Local Governments), to devise strategies given their resemblance. The Ministry also constituted a sector response task force to develop and coordinate the education sector preparedness and response measures to mitigate the impact of the outbreak of COVID-19. The task force comprised of Education Directorates, Agencies and developing partner institutions. The role of the taskforce was to guide education sector and her agencies on continued communication to stakeholders. While discussions on the education sector preparedness to continue with learning amidst COVID 19 were on-going, home grown and context specific strategies were already being undertaken (MoES, 2020). Among other strategies, the Minister of Education proposed to invest and utilise elearning systems to continue with learning at home together with some coordinated interventions.

Original Article

As a strategy, all governing bodies were directed to put in place measures for remedial learning for all learners and not to levy any extra fees in all education institutions in case school term/semesters resume. In the same vain, the National Curriculum Development Centre (NCDC) was asked to work with heads of primary and secondary schools to identify model teachers to prepare remedial learning to be delivered on radio and television stations across the country and develop standardised self-study lesson packages in all the core subjects for primary and secondary education. To this regard, all District Education Officers and Head teachers were contacted and asked to update their contacts in order to support in the distribution of materials to all learners across the country. In order to minimise the negative impact of the anticipated a prolonged school closure which would further reduce the instruction time and lower coverage of syllabus, of all stakeholders were involved to ensure continuity of learning. The long term plan set forth was to address issues of home schooling, eLearning and anxiety among learners and parents. The Ministry planned to send out a harmonized continuous learning programme and materials for all Primary and Secondary school learners through Local Governments, District Resident Commissioners, and Association of Secondary Schools Head teachers of Uganda (ASSHU) where selected teachers will use Local Radios and TVs to extend learning. This was to be supplemented with printed material through mass media. In this effort, parents were expected to learners to involve learners in their home activities to give them skills for life and counsel and encourage them to remain focused on their education.

Similarly, as head teachers and teachers were instructed to listen and prepare to give remedial lessons when schools re-open, the learners too, were directed to listen and directed all learners at all levels to continue to read, study and revise the work of the previous years since the national curriculum is spiral and the concepts of one level are useful in the next level. Whereas institutions were directed to uphold the principle of equity and access, it was not clear to the manager, how children disadvantaged backgrounds would learn using newspaper pullouts and those distributed by the RDCs, citing accessibility challenges, supervision, the cost effectiveness of this mode of learning while ensuring delivery of quality of education. Similarly, while the manager was eager to offer quality education, it was not clear how this was to be achieved with without all the aspects that develop a child wholly. That notwithstanding, who was to meet extra costs related to Covid-19 SOPs implementation at schools.

Institutional level response

Before reopening higher education institutions had instituted Covid-19 Task Force Committees which developed Covid-19 plans and budgets. Fortunately, the MoES released some funds to cater for issues of security, and maintenance of infrastructure as well as paid salaries for education managers and teachers. Similarly, NCHE issued guidelines for online teaching and learning and guided on how institutions should adapt to technology aided learning. Institutions trained staff on the usage of e-learning, developed guidelines for Online Distance Education Learning (ODEL), sought consent from students regarding conducting online classes-thus institutions tried to stay in touch with learners especially HEIs, and also re-opened for face to face teaching and learning, but only for candidate classes. Staff members were recalled from the lockdown; preparatory meetings were held with the departmental staff, recalled the learners to resume classes. Specifically, between July and September, 2020, Ugandan Management Institution got into collaboration with 'African Excellence Digi Face' the School of Distance Learning, to train in 'Technology

Enabled Learning" modules. Workshops were organized for module leaders so as to train other members of staff.

Original Article

DISCUSSION

Although Covid-19 pandemic presents numerous challenges, it has promoted e-learning thereby resurrecting the long forgotten critical model 'heutagogy' - which was developed about two decades ago, and is now highly preferred as one of the innovative methods of virtual learning in educational institutions (Adams, 2014). In fact, the model had long been snubbed in favour of pedagogy and andragogy, but it is currently the most yearned for due to much desired limited physical interaction that has paved way for both 'heutagogy' and 'cybergogy' which seem more favorable models of teaching and learning in a virtual learning environment. The model is best known for its double-looped learning and has become more superior as it has the ability to challenge the theories in use, values and the assumptions rather than simply reacting to problems (Arghode et al., 2017). Hence, in the present global context, this approach is likely to be more competitive in the formal, informal, and non-formal way of teaching and learning – thereby becoming an added value to pedagogy, andragogy, synergogy and cybergogy (Blaschke and Hase, 2016). On the other hand, whereas other types of education; (that is, primary, secondary and university) have maneuvered with online teaching, vocational education is still facing challenges given that this kind of training demands rigorous practical skills involving 'teacher-learner-physical material' interaction, because as a sub-sector, it is exceedingly diverse with education and training institutions spanning from business, health, agriculture, technical, vocational to paraprofessional fields that may not be exclusively conducted online, and risks losing key competencies for lack of hands-on.

Consequently, the blanket recommendations tend to disregard different challenges faced by differently funded institutions (Public or Private), and geographically located (urban/rural) - in terms of availability of electronic devices for learners at all levels. Since the notion of universal primary and secondary education in Uganda was to achieve equity and access for all Ugandans – the Government of Uganda should take cognizant of other providers who have for long shouldered the burden of supporting the government through private arrangements. Despite efforts made to incorporate ICT into mainstream curriculum, Uganda's education system is still rooted on the traditional rote learning approach with very limited scope to modern technology platforms to keep pace with learning and teaching in the 21st century. This has crippled Uganda's education system in three key areas at all levels of education vis; (a) access to, (b) quality of, and (c) relevance of education. Given that there is low or hardly internet penetration especially in the rural schools, it may lead to only a few individuals participate in this mode of learning, considering that majority of learners live in rural areas - where online learning is, but a dream within a dream, in addition to the daily realities and struggles to access basic needs.

Conclusion

Inevitably, change is a difficult process to manage, even under 'normal' circumstances. Hence, given the nature of the challenge schools are facing, there are likely to be hurdles to any implementation process, no matter how well planned. Inadequate infrastructure, high costs of access, unreliable and electricity services, weak policy regimes, inaccessibility to appropriate software and course-delivery platforms, shortage of skilled personnel to manage the resources and maintain new delivery modes, a technology-illiterate user group, limited bandwidth and lack of access to online scholarly materials might affect government's efforts. In order to mitigate further damage, the government needs to continuously negotiate with the proprietors of these institutions, and, formulate implementable interventions with the involvement of all key stakeholders. All education managers at different levels therefore, should be involved to provide lasting and tenable solutions. Similarly, since there is no 'One

size fits all' intervention for learning continuity, all stakeholders should come on board to guide which intervention is feasible for which level of education, in order to provide lasting and tenable solutions for learning to continue. Considering that the success of e-learning system will always depend on the willingness, acceptance and cognitive ability of not only the students, but also the change management strategies to mitigate resistance, institutions should continue to sensitive, encourage and coach them in order to embrace technology-assisted learning. Lastly, the sector needs to conduct a thorough situational analysis regarding challenges and factors influencing the usage of e-learning system during COVID-19 pandemic. Secondly, institutions may not be ready for online/virtual learning due to inadequate infrastructure; high costs of access; unreliable and electricity services; weak policy regimes; inaccessibility to appropriate software and course-delivery platforms; shortage of skilled personnel to manage the resources and maintain new delivery modes; a technology-illiterate user group; limited bandwidth; and lack of access to online scholarly materials which need to be overcome for the internet to become a national option for extending education and learning, given in institutions. The Government of Uganda must continue to seek long-term solutions that allow equitable education for all through consultation processes, learning and interaction with stakeholders, and also avoid short-term political and emergency-induced solutions that are often short-sighted and are not holistic. In order to develop a framework for the provision of internet supported ICT learning to play its part in supporting continuity of learning, there is an urgent need for collaborative partnerships between a wide range of stakeholders - both at the local and global levels, including; mobile networks to offer special tariffs and bundle packages for learning purposes; exploiting offline mobile phone educational applications and open source soft-ware platforms. Similarly, the situation that institutions are responding to now requires a more rapid response, through intensive monitoring what is occurring in order to understand not only the impact, but also how the change is being responded to by students, staff and the larger community.

Institutions should ensure that teachers and faculty members develop the required digital literacy skills, develop effective pedagogical strategies, and develop peer collaborations and support to secure adequate technology and bandwidth. The Government of Uganda must continue to seek long-term solutions that allow equitable education for all through consultation processes, learning and interaction with stakeholders, and also avoid short-term political and emergency-induced solutions that are often short-sighted and are not holistic. Further, the integration of information technology in education should be further and that online education should eventually become an integral component of school education. Lastly, the 'new normal' seems to compete with the pandemic and the responsibility to ensure that society is a stronger, unified and improved society rests heavily on us as academia. Against this backdrop, institutions require agility, resilience, national solidarity and unity in partnership, with coherent, coordinated and decisive responses to address the longterm effects on the economy – to the benefit of society.

CONFLICT OF INTERESTS

The authors have not declared any conflicts of interests.

REFERENCES

Adams P (2014). Self-determined learning: Heutagogy in action. British Journal of Educational Studies 62(4):476-478.

Original Article

Arghode V, Brieger EW, McLean GN (2017). Adult learning theories: Implications for online instruction. European Journal of Training and Development 42(7):593-609.

Asian College of Teachers (2018). Shaping Great Educators of Tomorrow. The Knowledge Review. Education, Innovation and Success. New Delhi, India.

Baggio M (2020). Here's why society is reacting with panic to coronavirus. Behavioral insights, Joint Research Centre. Available on: https://www.weforum.org/agenda/authors/mariannabaggio

Ban Ki-Moon (2012). Global Education: First initiative to ensure quality, relevant and transformative education for everyone. Send every child to school. United Nations Secretary-General, New York, September 2012.

Bertalanffy LV (1972). The quest for systems philosophy. International

Journal of General Systems 43(2):172-245

10.1080/03081079.2014.883743.

Belt E (2014). Applying heutagogy in online learning: the side model, in Blaschke LM, and Hase S (Eds), Experiences in SelfDetermined Learning. Create Space Independent Publishing Platform pp. 178-191.

Blaschke LM, Hase S (2016). Heutagogy: A holistic framework for creating twenty-first century self-determined learners. In Kinshuk GB, Maina M. The future of ubiquitous learning: Learning designs for emerging pedagogies. Springer pp. 25-40.

Cao W, Fang Z, Hou G (2020). The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry research 287:112934.

Chintalapudi N, Battineni G, Sagaro GG, Amenta F (2020). COVID-19 outbreak reproduction number estimations and forecasting in Marche, Italy. International Journal of Infectious Diseases 96:327333.

Dong E, Du H, Gardner L (2019). An Interactive Web-based web based dash board to track COVID-19 I real time. Lancet infect Dis:

published on line February 19.

Garnett F, O'Beirne R (2013). Putting heutagogy into learning. In: Hase S, and Kenyon C. Self-Determined Learning, Bloomsbury, London.

Hase S, Kenyon C (2013). Self-Determined Learning Heutagogy in

Action. https://www.bloomsbury.com/uk/selfdetermined-learning-

Original Article

9781441142771/

Iszatt-White M, Kempster S, Carroll B (2017). An educator's perspective on reflexive pedagogy: identity undoing and issues of power. Management Learning 48(5):582-596.

IUCEA (2010). A Road map to Quality: Handbook for Quality

Assurance in Higher Education. Guidelines for Program Self-

Assessment, UCEA/ CHE/ NCHE/ TCU/ DAAD. The Inter-

University Council for East Africa/DAAD 2010

Jackson C, Mangtani P, Vynnycky E (2014). Impact of school closures on an influenza pandemic: scientific evidence base review. Public Health England, London.

Kasozi ABK (2013). Rethinking of our education system: Part 1. Higher education Project. Research Associate, Makerere Institute of social Research, Kampala Uganda.

MoES (2020). Education Systems' Response to COVID19 Brief: April 3, 2020. World Bank Education Overview of school closures. Kampala, Uganda.

Moldoveanu M, Narayandas D (2019). Educating the next generation of leaders, Harvard Business Review 2:40-48 available at: https://hbr.org/2019/03/educating-the-next-generation-of-leaders accessed 23 October 2019

Murray CJL, Lopez D (2020). The Global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, projected to 2020, Boston: Harvard School of Public Health https://apps.who.int/iris/handle/10665/41842

Namara R, Nkata LJ, Karyeija G, Nabaho L (2020). Challenges facing education in Uganda during the era of covid-19. A national dialogue paper presented at Uganda Management Institute.

Richardson LP, McGowan CG, Styger LEJ (2017). Heutagogy - an updated approach to masters education, Excellence in Services 20th International Conference, Emerald, Verona pp. 703-718.

Scopes L (2011). A Cybergogy of Learning Archetypes and Learning Domains: Practical Pedagogy for 3D Immersive Virtual Worlds. Cutting Edge Technologies in higher education. Emerald Group Publishing Limited. DOI:10.1108/S2044-9968(2011)0000004005

Sholts S (2020). Accurate science communication is key in the fight against COVID-19. Young Scientist, World Economic Forum, License and Republishing

Original Article

Slade S (2017). What Do We Mean by a Quality Education? Global Outreach, ASCD.

Tumwesige J (2020). COVID-19 Educational Disruption and Response: Rethinking e-Learning in Uganda. COVID-19 Educational Disruption and Response: Rethinking e-Learning in Uganda, Conrad, Canauer Stiftung.

United Nations (UN) (2012). Remarks on launch of Education First Initiative. New York: UN.

UNESCO (2020). Global Education Monitoring Report Team. 2020. Inclusion and education: All means all. Global education monitoring report. Paris: UNESCO.

Uwezo K (2020). Are Our Children Learning? The Status of Remotelearning among School-going Children in Kenya during the Covid-19 Crisis. Nairobi: Usawa Agenda.

World Health Organization (WHO) (2020a). Strategic communications frame works, corona virus disease 2019, and situation report.

World Health Organization (WHO) (2020b). Corona virus disease 2019, situation report -76: risk communication and community engagement action plan guidance COVID 19 preparedness and response.