Enhancing quality in online assessment

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ABSTRACT: The education and learning process is considered complete after assessment and evaluation which usually comes at the end of the instructional development cycle. Due to the COVID 19 pandemic, most of the learning institutions have had to diversify their mode of operation including but not limited to online, distance learning and assessment. Despite the convenience of going on with the education as usual, online assessment presents a vast of challenges when it comes to quality and integrity. This paper examines the various ways of enhancing quality and objectivity in online assessment with a focus on concerns/challenges of online assessment, practice of online assessment in other parts of the world and the lessons Kenya can borrow from these countries to enhance quality in the online assessment. The paper is solely a desktop research that utilized a meta-interpretive research design to integrate findings and review results. All works reviewed were acknowledged. This study was anchored on the Active learning theory that is an improvement of the theory of constructivism. The paper is expected to help facilitate educationalists to conceptualize the notion of online assessment for quality education. Any institution that wants to use online assessment may also find it of great use. The research established that most of the challenges that are currently facing the online assessment could be solved through the use of webcams to vet if the students have accessed the exam room with unauthorized materials, facial recognition softwares to curb impersonation and Turnitin to detect plagiarism. There is dire need to enhance quality in the online assessment for transparency and objectivity. From the study, it is evident that academic institutions need to adopt and adapt to technological advancement and embrace online instructional methods. For objectivity, accuracy and quality, it is recommended that the learning institutions should adapt to the technological changes by investing in advanced remote invigilation systems. Regular random assessment can be adopted with an average of the cumulative scores used to evaluate a learner.

KEYWORDS: online assessment, academic integrity, quality, objectivity, technology.

1 INTRODUCTION

After assessment and evaluation, which typically occur at the conclusion of the instructional development cycle, the educational and learning process is deemed to be complete. The necessity for web-based learning and instruction has increased as a result of the internet's breadth, technology's accessibility, and the emergence of global health pandemics. With the spread of the COVID-19 pandemic that forced school closures, online education is swiftly encroaching on classrooms and learning institutions all across the world. Due to this epidemic, educational institutions all over the world have been gradually implementing online learning through systems like Google Classroom, Cisco Webex, Zoom meetings, Microsoft Teams, and Blackboard. With online learning, schools have also had to think and invest in accompanying online exam assessment tools such as M-Elimu Lockdown, Respondus Lockdown, TCExam, Skillsbook and ThinkExam (Singh, 2019). It is important to note that online learning and assessment is not, in fact, a new global phenomenon – especially in the developed countries. The COVID-19 pandemic has only accelerated the rate at which this approach is adopted by the different institutions of learning world over. Most of the universities abroad had already migrated to the online teaching mode because it is relatively cheaper in terms of travel costs, venue costs and accommodation costs and convenience of the students and their lecturers. This paper

examines the various ways of enhancing quality and objectivity in online assessment with a focus on concerns/challenges of online assessment, practice of online assessment in other parts of the world and the lessons Kenya can borrow from these countries to enhance quality in the online assessment.

2 METHODOLOGY

The paper is solely a desktop research that utilized a meta-interpretive research design to integrate findings and review results. All works reviewed were acknowledged. This study was anchored on the Active learning theory that is an improvement of the theory of constructivism.

3 ACTIVE LEARNING THEORY

This research is anchored on the active learning theory proposed by Jean-Jacques Rousseau, which propagates for the inclusion of the students to be involved in the instructional process. It focuses on developing the students' skills as opposed to transmitting information. The active learning theory emphasizes on the students' exploration of their values and attitudes. The theory is an improvement of the Constructivist theory which encourages learners to either build on the previous knowledge they have or find new ways to absorb new knowledge (Pardjono, 2016).

Brame (2016) suggests that learners need to participate in the decision making process, they need to take responsibility of the learning process so that they can develop a deeper meaning that is long lasting and fulfilling. The current environment has improved technology which should be a motivation of the desire to learn. In this case, proper policies and guidance put in place will discourage learners from engaging in malpractice because they already know the consequences of teaching as well as the value of knowledge. Involving the students in developing some of these policies will help them understand the main objective of the policies and eventually help them understand that exam malpractices are not worth it in the long run. The student involvement in the school processes is both empowering and educative.

4 WHY ONLINE TEACHING/ASSESSMENT?

Higher education institutions are offering more online courses as a result of supply and demand factors. Coates & Humphreys (2003) contend that there is a sizable and expanding market for older and working students who hold full-time employment, as well as the cost of providing online courses is significantly lower than that of providing in-person courses. This is because course management systems (CMS) are increasingly reasonably priced and accessible. Publishers of course texts have also recently created digital supplements like PowerPoint lecture notes, digital assignment supplements, plus test banks that are interoperable with the CMS platform (Navarro & Shoemaker, 1999). These developments lower the expenses associated with creating digital information, managing it, evaluating it, and distributing it to students. They also contribute to the rapid rate of increase of online courses. The upheaval of the global education sector caused by COVID-19 has given the development of online courses and evaluation an even bigger push.

5 ADVANTAGES OF ONLINE TEACHING/ASSESSMENT

It has been discovered that pupils who prefer self-pased learning benefit from online evaluation (You & Kang, 2014). As it is more self-directed, one can devote more time to topics they need assistance with rather than concepts they can pick up quickly (Kellaghan, 2001).

For both academic establishments administering the assessment and indeed the students find great value in online testing. Among the advantages are:

- Examining organizations are not limited to offering examinations physically using online assessment, therefore they can provide exams to students located over a wider geographic area. Schools that in a perfect ideal world would never have been accessible owing to geographic restrictions can now educate more pupils. It turns neighborhood schools into hubs of international education.

- The examining body can manage all the tasks involved in designing exams more easily by working online. In order to review and approve questions before they are added to the question bank, for instance, collaborative question creation is possible.

- Virtual invigilation enables applicants to take a safe, supervised exam from the convenience of their own home. This reduces stress and cuts travel time between home and the testing locations.

- Virtual marking is substantially faster, especially for questions with multiple choice and auto scrabble. In some instances, the results are instantly available because the exams can be marked using web-based technologies. Happy to obtain results fast are the students.

- The use of less paper, printing, plus fuel for commuting between and to school makes it more eco sustainable.

- The printing, distribution of exams on paper, and planning of shipments of finished scripts to markers is an expensive procedure, both financially and in terms of time. When tests migrate online, organizations significantly minimize the administrative burden of having people physically present to plan and supervise exams.

6   WHY IS ONLINE ASSESSMENT A CONCERN?

Even though online evaluation has many of the benefits previously mentioned, there are some worries that, if not handled, could turn into drawbacks. Some of the issues are as follows.

7   POSSIBLE COMPROMISE ON THE INTEGRITY OF EXAMS

In accordance with Watson & Sottile (2010), the increase in school adoption of online enrollments has increased worries about the validity of evaluation practices in online courses. A component of the course mark for face-to-face exams is based on proctored assessments, such as multiple-choice, short-answer, and essay formats. The true identity of the exam taker in a proctored setting can be easily verified through personal contact between the proctor and the student or through visual examination of identifying documents such student ID cards and exam authorization cards. On the other hand, a crucial presumption in the assessment of online courses is that the integrity of grades in online classes run a significantly higher risk of being compromised by cheating than do grades in face-to-face classes when the course instructor or exam invigilator and the student are physically removed from the classroom (Stuber-McEwen, Wiseley & Hoggatt, 2009).Since the online assessment system is still being developed, students can copy and paste data from different websites into their exam work. A student has the ability to open several tabs in addition to the exam tab in order to cheat. Plagiarism, fabrication, misconduct, and misrepresentation are further types of cheating.

A student may also pay someone else to sit the exams for them. This form of cheating has been greatly magnified in the online assessment method because, unless the institutions of learning invest in proper technology, there is no way of determining whether the person behind the computer is the true student. In addition to that, there is also some form of misbehavior where the students carry unauthorized materials to the exam room. Rowe (2004) argues that students can intentionally break the internet connection in order to hand in their papers late or redo an assignment. Such students may use the offline time to refer to other sources and sneak in inappropriate materials to the exam room.

The online assessment is also not developed to an extent where there is a clear line between dishonesty and ethical consideration. A student might think that they have done proper research and exhausted the online resources but without proper understanding and paraphrasing, that will be considered as cheating. Cheating in examinations and assessment undermines the students' capability to learn and master knowledge and achieve excellence, instead, we have students with high grades yet limited application to the outside world.

8   ON BOARDING ON TO NEW TECHNOLOGY CHALLENGES

A time of adaptation is necessary for both students and teachers before an online examination system is used. The educational institution that is providing the online exam must consciously invest in the onboarding process. Because of the changes wrought by COVID-19, both educators and students had little space to prepare for the innovative approaches of exam assessment (the online assessment). Limited time makes the onboarding process stressful, notably for students who seem to be apprehensive about studying for the test while still becoming accustomed to the new technology (Paatham, 2020).

9   INFRASTRUCTURAL BARRIERS

Online evaluation is significantly hampered by elements like consistent internet connections, the availability of electricity, particularly in remote locations, and the accessibility of personal computers. For example, the majority of students in Kenya lack computers, which are necessary for most or all of these infrastructure support technologies to enable them to participate in remote online learning assessments. Online course learning and assessment would only be advantageous to students from privileged backgrounds. Online evaluation is particularly challenging to implement due to the connectivity issue and the

frequent power outages for those who are fortunate enough to be linked to the grid. For individuals who are not yet plugged into the electricity grid, this is worse.

10 UNSUITABLE FOR COLLABORATIVE EVALUATIONS/GROUP PROJECTS

It's not like all online assessment evaluation methods can be used at the school. Online testing, for example in the case, is not the best format for group tasks or collaborative assessments. This is due to the platform's objective nature, which prevents subjective evaluations in which points are given to an unit for subjective efforts as opposed to on the basis of points determined by an established framework. Apparently, Aaron (2020), Exams in the form of debates, essays, case-based questions and oral exams are difficult to conduct and assess online. This makes online exams more restrictive. The UNESCO report (2020) notes that there is an emerging trend – globally-towards online evaluation. The major visible challenges however are the issues of fairness and the feasibility of these methods of assessments as not all subjects and competencies can either be assessed online nor by phone.

Shank (2012) argues that some of the tests that have been used in the traditional classroom may not be valid for online assessment if the academic institutions have to observe objectivity. Most of the traditional evaluation questions were standard with specific answers and were recycled more often. The online platform does not give an option for recycling the tests therefore the instructor has to come up with new tests every now and then. This is an advantage to the online learning platform because it can encourage objectivity but at the same time a disadvantage because if a lecturer is too preoccupied to come up with a new test they are bound to set a substandard test that will affect objectivity and encourage malpractices.

11 POOR CORRELATION WITH STUDENT'S UNDERSTANDING

Kim (2020) contends that timed online tests don't make sense, particularly during this already challenging period of the COVID-19 pandemic, as they only measure students' ability to respond to questions rapidly. A timed online test prioritizes measuring speed over comprehension. There is no connection between understanding and recall speed. For instance, pupils who can respond to questions quickly may not necessarily be smarter than those who must pause to consider their response. Similar to this, finishing a test quickly does not indicate diligence, preparation, or expertise. As a result, there is a legitimate worry that the online exam assessment places undue pressure on the student to type quickly within a set time limit rather than evaluating the student's grasp of the topic. This is worse for those students who cannot type first enough.

12 LITERATURE REVIEW ON PRACTICE OF ONLINE ASSESSMENT IN OTHER PARTS OF THE WORLD

Recent developments in education indicate that academic institutions are shifting away from traditional exams and toward online assessment platforms. For instance, most international entrance examinations, if not all of them, are now entirely online tests. One of the earliest exams to switch to an online version was the GRE (Graduate Records Examinations), which was followed by the GMAT (Graduate Management Admission Test) in 1997 and the CAT (Common Admission Test) in 2009. (Malguri, 2018). Today, the majority of exam bodies favor online exams evaluation since it gives them more freedom to reach a global audience.

Malguri (2018) further argues that globally, a growing majority of schools and colleges use at least one or more learning managements systems (LMS) for learning and evaluation as well as for publishing study material on the cloud. Some of the leading management systems used by various reputed institutions of learning include Desire2Learn, Blackboard and Moodle. This alternative mode of teaching has enabled educators to impact advanced-level skills and techniques to their students, while also giving them the ease of evaluation and grading. Students benefit from such systems as they can now write tests and submit their assignments from the comfort of their homes. GRE, GMAT and CAT are some of the most competitive exams in the world; as well as most challenging. If well approached, online assessment can therefore yield more advantages than disadvantages.

In the United Kingdom, the University of England goes in history as an institution that has practiced online education with their tests and evaluation conducted online. The UOE encourages online teaching and assessment as it is cost effective. In terms of integrity, the exams are delivered using remote invigilators. Students are also expected to turn their webcams on to make sure that there is no chance of smuggling unauthorized material into the exam room. To curb the high rates of impersonation, the UOE uses the face recognition software to identify the students as they proceed with the examination process (Krsak, 2007).

According to Brabazon (2016), in The United Kingdom, higher education sector, has incorporated the systems not only to ensure the integrity of examination but also to escape from the tedious process of repetitive marking, lost scripts as well as

repetitive paperwork that is associated with a parcel of paper-based assessment. Unfortunately, the system did incur challenges involving the validity of online assessments. To resolve the problem, the UK higher education system established various measures, such as instilling confidence among the students when taking online exams. For instance, first years, UK students incur a barrage of new experience to deal with. During their first few weeks, the students are required to familiarize themselves with online assessments, which are done in the presence of the lecture at a distance with a camera. The condition instills confidence since students get used to the system right from the start, and require minimal to no supervision. The terms also validate the ability of the students to be assessed online. Equally important, students experience little to no pressure when doing online exams; hence are less inclined to get involved in malpractices during an online assessment at home.

As discussed in the above case, it is crucial that the society comprehend the principle of assessment. Still, we also get to put into practice the policies of the evaluation in the event we are designing and creating an assessment tool and carrying out the online assessment. Pennsylvania State University created a set of criteria to guide online evaluation, which is developing to be the norm, especially in distance education environments (Choi et al., 2017). The guide aids in ensuring that assessments conducted over the internet adhere to the utmost ethical standards necessary to validate the individual being assessed.

A capstone exam, also known as an integrative assessment, is a single, condensed piece of work that several universities in the UK have instituted to help students reflect on and show what they have learned during the program. Due to the Covid-19 epidemic, universities implemented capstone tests to help first-year undergraduate students who would often have a heavy assessment load and towards the end of their first year of study. The contribution of the assessments to the final degree classification is typically quite low, and first-year to second-year progression rates are frequently very high. In order to ensure that first-year students genuinely participate with their programs and achieve some of the important learning outcomes, the institutions substituted the planned examinations with a light-touch alternative. (UCL, 2020).

In China, due to the high population, most of the studies had to move online. These universities have embraced the use of technology in that the invigilator or supervisor is able to access the students' computers remotely and flag any inappropriate software pre-installed in the students' computers that might be used in exam cheating. Plagiarism detection tools have also been widely used to check the authenticity of these documents. Some of the tools used include Turnitin and Duplichecker among others.

The University of West Alabama and Oklahoma University in the USA introduced the online teaching and assessment which has grown in popularity despite the challenges on reducing the occurrence of cheating and positive identification of the students. Bedford, Gregg & Clinton (2009) note the rate of cheating is still increasing because students assume that it is okay to cheat. They further noted that students used the technological advances like expensive phones to take pictures of tests, share the questions via Bluetooth devices and copy and paste using the wireless internet connection then assume the copied text as their original thought. Ross (2005) also argues that students are very equipped with knowledge on the various existing search engines and websites including the sites where one can subcontract their project. When students use these kind of sites, it is often without a trace making it very difficult for the instructor to detect such malpractices. However, the two universities have embraced the use of Turnitin.com where learners have to submit their work before assessment. The federal government also helps in enforcing the integrity policy hence providing a good reminder to the students to avoid malpractices.

Australia and Spain have a big population of foreign students who study online. The distance education program has been regulated in a way that there is the use of remote proctors that monitor the students. The students are expected to install the proctor and the online blackboard which only allows them to login to the assessment test during the exam period. These proctors have student identification and facial recognition features that ensure that the student behind the computer is the registered student. There is also the option pf randomizing the test question and ensuring that the students do not see each other's screens before and during the examination session (Melissa, 2002).

In the United Arab Emirates, Mehkri& Nasir (2017) note that the UAE has embraced the use of technology to provide quality education that is comparable to the global standards. In their review, they argue that the migration to online teaching and assessment has various benefits including saving on paper wastage as well as reducing the cost of transportation and enhancing security of moving the test papers around. In their study in Romania University showed that there was no difference in the traditional tests administered to students from the online tests because the performance was more or less the same. They however recommend the involvement of the students in the online adoption for them to accept the new normal and maintain academic integrity.

13   LESSONS LEARNT FROM PRACTICE IN OTHER COUNTRIES

The following lessons can be learnt from the practice of online assessment in the other parts of the world.

1. When online assessments are designed poorly, they can be a major hindrance to thinking and learning.

2. Students strongly reject the idea to generalize e-assessment of other courses.

3. Multiple choice question tests are suited for knowledge assessment and are more objective.

4. Institutions need to cultivate the culture of academic integrity in their students such that cheating may no longer be appealing to the students. If the values are impacted in good time, it becomes very difficult for them to cheat.

5. Universities have to do more research and invest heavily in the latest technology that will discourage online irregularities. Will only open the examination page at a time, will detect any slightest movement, regular online assessment with a cumulative score, other assessment mechanisms like practical assessment.

6. Dixon (2011), suggests that institutions need to come up with a proper policy framework that highlights the code of conduct, definition of cheating and the punishment involved so that the students know when they have crossed the line before they even think of doing it. If the good morals are impacted in good time, the students might not engage in any malpractice.

7. Although Technology poses a greater risk to cheating in online assessment it can be used to enhance objectivity if invested in and used wisely.

14   RECOMMENDATIONS TO HELP ENHANCE THE QUALITY OF ON LINE ASSESSMENTS

The following may be beneficial recommendations to ensure quality in online assessment.

1. The vast majority of educators and learners are now immersed in the brand-new and somewhat strange world of online learning and assessments. Therefore, modeling and preparation make for a more useful starting point in improving the quality of online evaluations. Schools should serve as role models for teachers and students as they move from paper-and-pencil exams to online tests. Teachers and students should receive intensive training and workshops on how to use online test technologies, but schools should also smartly include behavior change efforts into other programs. Additionally, in order to prepare and take an exam, a person must be computer literate or at the very least be able to operate a computer properly. Education facilities should invest in computer usage education for both teachers and students in order to ensure that assessments go as smoothly as feasible. Some students can wind up failing exams not because they don't understand the material, but rather because they lack computer literacy. An investment in this literacy will get around this problem and guarantee that every student has a fair opportunity when taking an online test

2. Given the specific circumstances that the Covid -19 epidemic provides, students nowadays are enduring a lot of pressure and stress, which are primary drivers of cheating behaviors. Students are thus less prone to cheat when they feel connected, supported, and inspired (Harrison, 2020). Therefore, it is advised that schools reduce students' strain and stress when switching to remote teaching by offering meaningful contact with peers and professors

3. The most ideal assessment for online would be the authentic assessment which assesses students' learning, teaches students and improves their skills and understanding of the course content. An authentic assignment is one that requires application of what students have learned to a new situation, and that demands judgment to determine what information and skills are relevant and how they should be used. A test is authentic if it meets a number of parameters: it is realistic, it needs judgment and innovation from the learner, it replicates or simulates the contexts in which adults are "tested" in the workplace or a civic or personal life and it allows appropriate opportunities to rehearse, practice, consult resources and get feedback on and refine performances and products. Institutions should therefore focus on authentic assessment and not convectional assessment

4. There exist different types of assessments ranging from tests to projects to performance-based tasks to essays. It is important to keep in mind that each of these assessments types play a particular function and thus may be appropriate or inappropriate depending on what is being assessed. To enhance the quality of assessments, there should be a right balance when choosing the tools for assessments. Selecting the right assessments method improves quality of assessments. (Commonwealth of Learning & Asian Developing Bank (Eds), 2008)

5. For objectivity, accuracy and quality, it is recommended that the learning institutions should adapt to the technological changes by investing in advanced remote invigilation systems. Soft wares that only allow one examination browser window can be adopted to prevent plagiarism

6. Administer Regular random assessments while recording the top scores and explaining to the students how the assessment was done. The highest scores can be recorded then a cumulative score recorded to evaluate the students

7. Examiners can also adopt the open book mechanism so that there is room for students to present their own arguments and reasoning. The open book technique gives a good platform to also determine whether the curriculum being used is relevant to the students and the best way to improve it to get maximum results

8. O'Reilly, Bennet and Keppell in their study on online assessment in the Southern Cross University, the University of Wollongong and the Hong Kong Institute of education argue that there has to be teamwork and collaboration to ensure integrity and objectivity in online assessment (Bennett, 2004; Bennett & Lockyer, 2004; O'Reilly). Keppel *et al.* note that an assessment is an important factor in curriculum development and that focusing the assessment to a learning oriented approach will in turn affect the pedagogy, aims and objectives. There has to be collaboration with the academic designers and teachers to ensure that they comply with the innovative, teaching and learning principles

15 CONCLUSION

Exams are a necessary component of the educational ecosystem. It is important to stay current with changing technologies, a globalized globe, and a highly competitive educational environment. In comparison to its earlier incarnation, an online examination system automates, digitizes, and flattens the process to make it more inclusive, accurate, and accessible. The best practices in student evaluation and examination that have been developed through time are not, however, eliminated. Instead, the online examination method combines both the tried-and-true and the cutting-edge. When we reimagine both learning and evaluation using the technologies at our reach, it has a great chance that we will come up with a far stronger formula for safeguarding the integrity of online exam assessments. It is clear from the study that educational institutions must embrace online learning strategies and adopt and adapt to technology innovation.

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