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# **Towards Authentic Online Assessment of Learner Performance at United States International University-Africa (USIU-Africa)**

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**USIU- Africa**

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# Towards Authentic Online Assessment of Learner Performance at United States International University (USIU-Africa)

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### **Abstract**

Achieving authentic learner assessment is not an easy task. Online teaching and learning require assessment of both formative and summative assessment. The combination of the two types of assessments facilitates measurement of learning outcomes, application of knowledge, metacognition through reflection and self-assessment, interaction through collaborative activities, creation of new knowledge and achievement of higher order thinking which is a daunting task to many organizations. This study focused on moving towards achievement of authentic online assessment of learner performance. It sought to achieve five research questions including establishing the status of online assessment, determining digital tools used on online assessment, finding out the factors which affect exam credibility, examining the extent to which formative assessment contributes to authentic learner assessment and establishing the extent to which summative assessment contributes to authentic learner assessment. The study adopted a mixed method approach which collected and analyzed both qualitative and quantitative data. This triangulation approach facilitated complementarity of the data to adequately interrogate the research questions. Data was collected from faculty members, chairs of departments and the dean for the Chandaria School of Business. Analysis was done using descriptive and inferential statistics. The study findings indicate that the status of online assessment was based on the face-to-face approach, a variety of digital tools were being used in online assessment while several factors associated with learner and instructor support affected examination credibility. The study established that formative assessment contributed significantly and positively towards authentic learner assessment while summative assessment's contribution to authentic learner assessment was dismal. This study concluded that educational technology tools facilitate learner assessment, and the online examination credibility is key to achieving better results. While both formative and summative assessments are important authentic assessments, more emphasis needs to be placed on formative assessment. The study recommends support to both the learners and the instructors. Specifically, the instructors need to be trained in assessment approaches which lead to authentic learner performance.

**Key Words:** Authentic Learner Assessment, Examination Credibility, Formative Assessment, Learner Performance, Online Assessment, Summative assessment.

## **Executive Summary**

This study was triggered by ongoing debate on credibility of examinations that were administered by online higher education institutions during the COVID-19 pandemic. When higher education learning institutions transitioned to Emergency Remote Teaching and Learning (ERT&L), the idea was to address institution closure in the hope that lockdowns would not last for a very long time.

Time passed and as learning continued, there was a need to conduct assessment activities. Some of the institutions administered high-stake summative tests and examinations online and employed examination proctoring tools. However, they could not guarantee credibility of such examinations and discussions discrediting such examinations inevitably started. It became clear that higher education learning institutions were ill prepared for the challenges that the pandemic presented in education.

Based on the User Acceptance of Information Technology and Social Cognitive Theory and a conceptual framework specific to this study, the researchers sought to explain the importance of authentic learner assessment in today's changing education landscape. Assessment is an important part of the learning process because it shows the learning that has taken place over a period of time. Online assessment is riddled with challenges now, yet online learning renders itself open to authentic assessment activities. This is a contradiction that can be solved by in-service training of faculty members in a bid to re-tool them towards developing authentic assessment activities for online education.

Data for this study was collected using various instruments from faculty members in the Chandaria School of Business at USIU-Africa. Adequate data was gathered, and in-depth analysis was done to provide the results of this research project. One of the outstanding research findings of this study shows a strong relationship between formative assessment and authentic learner assessment meaning that formative assessment activities contribute significantly to authentic learner assessment. This research shows that discussions, informal quizzes, drafts towards major papers or projects, practical quizzes and interactive slides all contribute positively towards authentic learner assessment. According to the inferential statistics, a unit change in each of these parameters would bring about better authentic learner assessment.

One of the recommendations of the study is to do a university wide study and establish how authentic learner assessment is employed in all the schools at USIU-Africa before scaling up research to other institutions of higher education in the African region and beyond. Higher learning institutions consider graduate absorption in the workplace a success factor. Authentic learner assessment is a sure way towards having an impact in the work environment because it offers students the necessary preparation for the world of work.

### **Abbreviations and Acronyms**

<b>ANOVA</b>	Analysis of Variance
<b>CATS</b>	Continuous Assessment Tests
<b>COVID-19</b>	Coronavirus Disease of 2019
<b>CUE</b>	Commission for University Education
<b>DBA</b>	Doctorate in Business Administration
<b>ERT &amp; L</b>	Emergency Remote Teaching and Learning
<b>FGD</b>	Focus Group Discussions
<b>IRB</b>	Institutional Review Board
<b>LMS</b>	Learning Management Systems
<b>MBA</b>	Master of Business Administration
<b>NACOSTI</b>	National Council of Science, Technology, and Innovation
<b>ODeL</b>	Open Distance and e-Learning
<b>USIU-Africa</b>	United States International University -Africa
<b>WASC</b>	Western Association of Schools and Colleges

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## **1. Project Description**

### **1.1 Project Background**

Assessment informs different stakeholders in learning institutions about the achievements, performance, and alignment to industry expectations. It affects people's lives where future directions and careers of current students depend on it (Boud & Falchikov, 2007). There are numerous approaches to assessment in higher education. Assessment is used to determine standards and performance as well as judge the quality of learning that has taken place over a period of time. Traditionally, emphasis has been on high-stake tests and examinations that are given at the end of a learning period such as a semester. Conrad & Openo (2018) avow that assessment provides evidence of the outcome in any outcome-based approach to education thus it is a core component of pedagogy which must be properly integrated into the learning cycle to reflect and contribute to learning. Evaluation of learning and learners is bound up intricately with the teaching philosophy and practices of the instructor and the institution in which they teach (Zhang et al., 2021).

Today there is a general paradigm shift in approach to teaching and learning due to globalization, pandemics, and flexibility in education service offerings. Current wave of change in higher education institutions in favor of online education presents the opportunity to develop new assessment perspectives and practices. The shift to online learning in higher education creates a fertile environment for potential synergies between authenticity and assessment (Conrad & Openo, 2018). Online education can lead to improved assessment practices that are valid and reliable in the online learning environment. In the increasingly competitive environment, higher education institutions could distinguish themselves from competitors through emphasis on authenticity of their curriculum design, subsequently attracting career-oriented students (James & Casidy, 2018).

Higher education institutions aim to produce a competent workforce for world economies. They focus on authentic assessment where the learners are supposed to relate the theories and concepts taught in class to solve real world problems. Digital assessment has to be authentic to align with the competencies and skills demanded by the workforce (Buekes-Amis et al., 2022). Authentic assessment aims to replicate the tasks and performance standards typically found in the world of work and has been found to have a positive impact on student learning, autonomy, motivation, self-regulation, and metacognition; abilities highly related to employability (Villarroel et al., 2018).

### **1.2 Problem Statement**

Online assessment has been a daunting task to all the stakeholders in higher education institutions. Sometimes best practices in online assessment remain an issue that requires concerted efforts between key stakeholders such as students, instructors,

institutions, and regulators. While students have different perceptions of online assessment methods (Ogange, Agak, Okelo and Kiprotich, 2018), Seno-Alday and Budde-Sung (2021) noted that some instructors teach while they assess. Bhagat and Spector (2017) assessed the emerging role of technology in assessment and found that institutions try to balance between formative and summative assessments while regulators focus on assessments which measure learning objectives. On this front many studies have been done on challenges of online assessments (Guangul, Suhail, Khalit, & Khidhir, 2020). All investigations show that online assessment is an area in online teaching and learning which requires a standardized approach.

Online assessment is riddled with many challenges. This study proposes authentic assessment during online learning because it is realistic in achieving objectives, requires student engagement, is innovative and assesses ability to effectively apply knowledge and skills learnt to complete a task. This is because authentic assessment is centered on creativity in testing during the learning process so as to establish whether learners have acquired the relevant knowledge and skills. Authentic assessment ensures that learner needs are being met throughout an online learning experience. Since the assessment is done within learning, it is easier to align it to the learning outcomes or objectives and the content being learned.

### **1.3 Context and Rationale**

Higher learning institutions in Africa were operating according to long-term policy of local accrediting bodies where face-to-face teaching and learning was the predominant mode of education delivery until the onset of the COVID-19 pandemic. Face-to-face summative assessment was the only option for these institutions. At the onset of the pandemic, entire institutions' existence became threatened. Some universities were partially prepared given that they had some blended offerings through their Learning Management System (LMS) (Crawford et.al., 2020). Those who had such semblance of online learning easily moved to Emergency Remote Teaching and Learning (ERT&L). A study done by Osman (2020) confirms that universities that had some level of online learning quickly succeeded in offering classes. Those who did not have any form of online engagement with students struggled to acquire personnel, hardware and software required to move on to ERT&L. This came as a realization that the pandemic was going to be on for an indefinite period of time. As ERT&L was adopted, time passed by, and assessment became apparent and necessary. Students demanded to move on with their courses and it became necessary to consider online assessment. Whereas instructors had been given intensive training during the onboarding of ERT&L, online assessment became necessary without much preparation and training. Summative evaluation in education is simultaneously more familiar to those

involved in the instructional process (e.g., students, teachers, administrators) and a potentially under-theorized practice in regard to online learning (Perera-Diltz & Moe, 2014).

Governments, accrediting bodies, and instructors questioned the integrity and authenticity of online assessments because they had never envisioned learners doing assessments physically away from institutions of higher learning. Alternative assessments and statistical measures to assure fair and accurate prediction of students' performance (Osman, 2020) were quickly devised. The forms of assessment that would be applicable to eLearning became a big debate. Online assessment is defined as any means of evaluating student achievement or providing feedback which helps in moving the students forward in their learning process (Weleschuk 2019). This study comes at a time when instructors are at the danger of falling back to the old, tried and tested face-to-face teaching and learning traditions of high-stake summative assessments. What was gained during the pandemic should leave the teaching and learning environment better and online assessment is an area that needs to be advanced through research.

#### **1.4 Research Questions**

1. What is the status of online assessments in the School of Business at USIU-Africa?
2. What educational technology tools are currently being used in online assessment in the School of Business at USIU-Africa?
3. What factors affect exam credibility in the School of Business at USIU-Africa?
4. To what extent does formative assessment contribute to authentic learner assessment in the School of Business at USIU-Africa?
5. To what extent does summative assessment contribute to authentic learner assessment in the School of Business at USIU-Africa?

## **2. Literature Review**

Online teaching and learning have both proponents and opponents. Online assessment is an area of online teaching and learning that has more antagonists than protagonists. Wa-Mbaleka (2020) clearly identifies online assessment as “probably one of the most controversial issues in education”. There are generally two forms of assessment which are formative assessment and summative assessment. Formative assessment has been defined as “activities undertaken by teachers and by their students in assessing themselves that provide information to be used as feedback to modify teaching and learning activities” (Black & Wiliam, 2010, p. 82). Thus, formative assessment encompasses a whole host of tools that provide feedback to teachers or students to help students learn more effectively.

Summative assessments are “cumulative assessments ... that intend to capture what a student has learned, or the quality of the learning, and judge performance against some standards” (National Research Council, 2001, p. 25). Assessment is an integral component of the education process as it supports learning by providing learners with the opportunity to demonstrate acquired skills and knowledge, while determining their professional, vocational, and academic achievement (Ashford-Rowe, Herrington & Brown, 2014). Assessment results influence students’ future careers and lives. For this reason, summative assessments are known to cause high levels of cognitive anxiety in students. Iverson, Lewis, and Talbot (2008) defined an authentic assessment as: one that is performed and assessed in an authentic environment; received by an authentic audience; one that develops higher-order thinking through complex challenges; one that requires self-reflection, is formative and feeds forward into a subsequent task or tasks. Eight critical elements of authentic assessment from the literature are challenge, outcome based, transfer of knowledge, metacognition, accuracy, fidelity, discussion, and collaboration (Ashford-Rowe, Herrington & Brown, 2014; Mathur, & Murray, 2006; Sotiriadou, Logan, Daly, & Guest, 2020). Authentic assessments are based in real-world relevance (Conrad & Openo, 2018).

Authentic assessment has to be woven into the course design and development. As such, assessment is a core component of pedagogy and must be properly integrated into the learning cycle as a method of teaching that both reflects and contributes to learning (Conrad & Openo, 2018). “Keeping academic integrity in mind such that it becomes part of the course fabric from the beginning requires paying close attention to several course design features. These are a mixture of styles (the how of assessment) and genres (the what of assessment), and they are overlapping. However, they help the educator develop assessment tasks that both encourage deep learning and decrease the likelihood of cheating. It is possible to promote academic integrity and reduce reliance on deficit-driven solutions by using backward design, building flexibility, regular formative assessment, collaborative activities and applied learning into the course plus attending to localization” (Beukes-Amiss, Haynes, Moore, Makoe, Skidmore, & Veletsianos, 2022).

The proponents of authentic assessment show how it benefits the learning process in a number of ways. Conrad & Openo (2018) argue that “authentic assessments, especially in blended and online learning contexts, encourage students to take a deep approach to learning, provide necessary alignment for faculty to better determine the quantity and quality of student learning, and provide institutions with the evidence necessary to respond to external pressures regarding their ability to measure student learning outcomes”. Accrediting authorities just need to be convinced that authentic assessment takes place in the online learning environment to allay all fears in the quality of graduates produced by a given program.

The use of authentic assessment can be constrained by institutions. Devising authentic assessment, particularly in systems with strong traditions of 'testing', is not easy, because there is lack of a robust concept on which to base guidance for assessment design and operation (Villarroel et al., 2018). Institutions may therefore need to change by adopting strategies that will enhance authentic assessments in their programs. Herrington & Herrington (2006) saw that there are two major impediments to the widespread adoption of authentic assessment in higher education—one institutional, the other pedagogical. They found that institutional constraint comprises of: policies and accountability procedures set by universities that often limit the discretion of instructors to use appropriate forms of assessment and reporting systems that cause a lack of alignment between learning activities and assessments.

Authenticity of assessment inevitably brings about integrity which is a long sought-after value by accrediting authorities because it improves validity of assessment. In their research, Sotiriadou et al. (2020) concluded that promoting authenticity and academic integrity in assessment continues to present a priority for educational institutions. Authentic assessments measure the learner's progress in accomplishing course or learning outcomes in a manner that reflects real-life application of the skills and knowledge in a particular field or career (Beukes-Amis et al., 2022). Higher learning institutions consider employability of their graduates a measure of success in what they do. One way in which universities can close the gap between graduate skills and industry demand is to assess students' learning more authentically (James & Casidy, 2018). Higher education must assess critical competences needed for solving realistic and contextualized problems using high-order skills in order that students become good professionals and citizens (Villarroel et al., 2018).

Authentic assessment has gained an increased popularity in higher education for its real-world focus that allows students to engage with practical problems and challenges (Wiewiora & Kowalkiewicz, 2019). Knowing that the ability to discuss, give and receive feedback is critical to workplace performance; Ashford-Rowe, Herrington & Brown (2014) suggested it's inclusion in authentic assessment activities. Conrad & Openo (2018) and James & Casidy (2018) also opine that an important distinct consideration in designing authentic assessments is planning for prompt feedback. Instructors who wish to take up authentic assessment therefore have to be prepared to engage with their students and provide constructive feedback that will prepare them for the workplace.

Instructors and students are accustomed to traditional high-stake assessments and therefore need training on authentic assessment which may be a mixture of a few high-stake and many low-stake assessment activities. Teaching teams require capacity building to be aware of typical graduate destinations in order to create authentic curricula and thus to enhance students' understanding of viable pathways (Schultz et al., 2022). Both lecturers

and students must see assessment as an integral part of the instructional process and a critical component of a coherent educational experience (James & Casidy, 2018). It is critical that we help students understand the rationale behind authentic assessment design so that they embrace and appreciate it (Schultz et al., 2022).

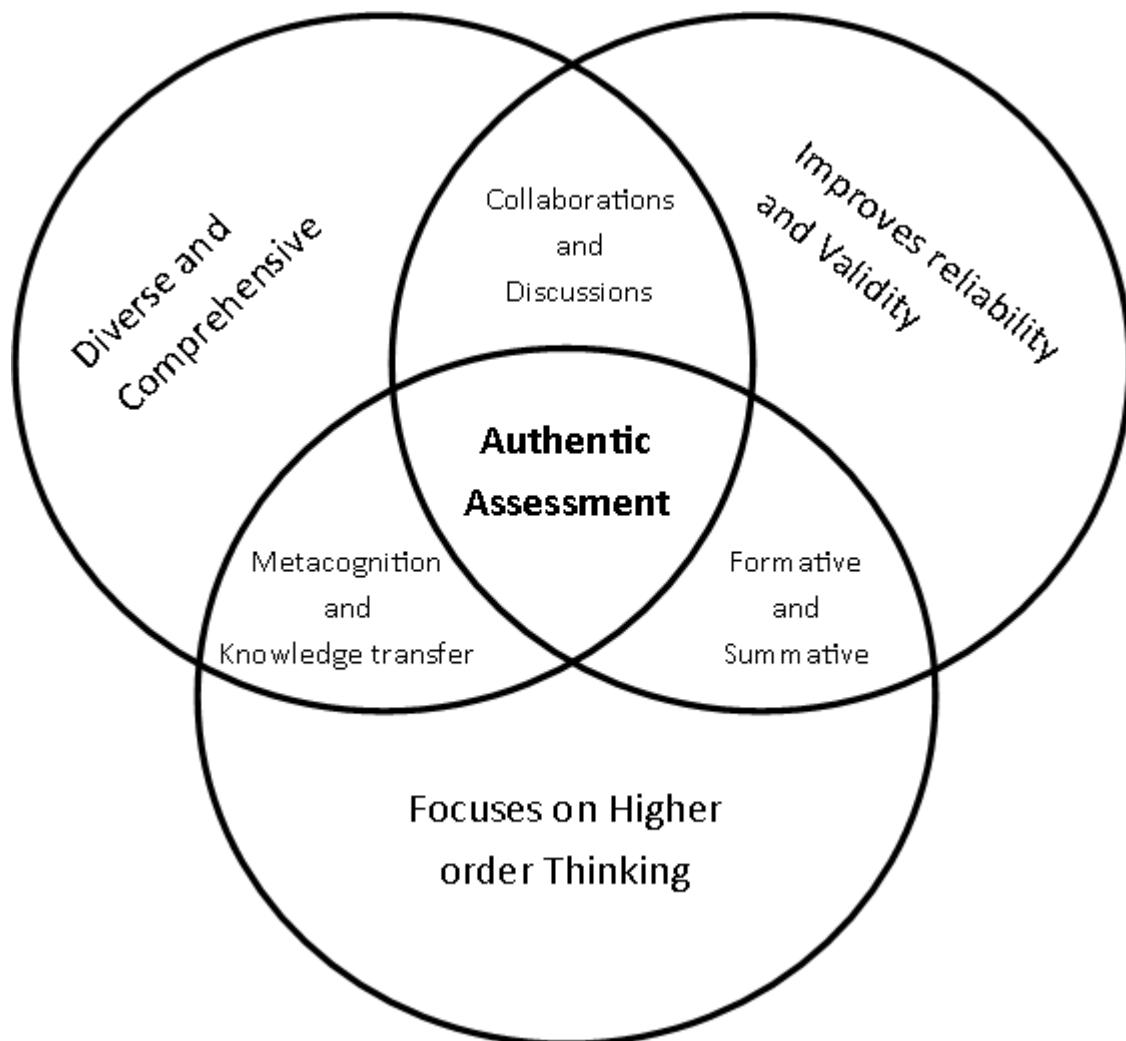
## **2.1 Theoretical Framework**

Online assessment is technology dependent. This study was anchored on User Acceptance of Information Technology and Social Cognitive Theory. Venkatesh et al. (2003) posited that key determinants of an intention to use a technology depends on performance expectancy, effort expectancy, and social influence, and two direct determinants of usage behavior: intention and facilitating conditions. The level of student and instructor intention to use and support a technology being used in assessment is dependent on the type of technology. Acceptance to use a certain technology may determine the validity and reliability of online assessment results.

Assessment is a cognitive engagement which calls on students to exercise control in challenging situations. Social cognitive theories encourage fore-thinking and high level of organization which is necessary for assessment activities. Bandura (1986) social cognitive theory provides a framework for social action and social learning by attributing it to a reciprocal relationship between the individual, the environment, and the behavior. This theory has an element of self-efficacy, another element required by the developers and partakers of online assessment. The two theories guided the creation of research instruments which were used during data collection and later data analysis.

## **2.2 Conceptual Framework**

Wiley Education Services (2022) define authentic online assessment as “one that requires students to apply what they’ve learned in a new, complex circumstance or situation. This study will be guided by a conceptual framework developed by the researchers as shown in Figure 1.

**Figure 1.1***Conceptual Framework of Authentic Assessment*

Collaborations and discussions enhance assessments bringing about learner interaction and building a community of learners in the context of the course. Metacognition requires learners to learn from a wide variety of knowledge, skills and experiences previously held making assessments require knowledge transfer. Authentic assessment should be diverse in activities being undertaken in the assessment. Online environment provides for diversity in the tools that may be used for both formative and summative evaluation. When assessment is authentic, it could improve test reliability and validity. There are online activities and tools in the teaching and learning environment created within Learning Management tools that can make tests and other forms of assessment highly valid and reliable.



Any form of assessment should always align with the course learning objectives or outcomes and course content. Where this is properly achieved, assessment becomes authentic even in the online learning environment. Online teaching and learning should assess higher order thinking skills to avoid the temptation to cheat. Authentic online assessment therefore is one that encourages reflective practices once a learner has internalized the concepts being taught. Authentic online assessment should not test the lower order thinking skills such as recall which encourages cheating during online examinations. It should test levels such as synthesis, analysis, and creation of concepts in real life situations. The conceptual framework used to guide the creation of research instruments and data collection. During data analysis the conceptual framework was also referenced to check whether the researchers' beliefs about authentic assessment would be confirmed or challenged.

This study measures authentic assessment in terms of the level of challenge by connecting real world ideas with concepts and theories, how they measure learning outcomes, intended transferred knowledge and skills, focus on metacognition by means of critical reflection, self-assessment or evaluation, provision of accurate information by the students, student output in the assessment being their own original work, Assessment activity requires discussion and feedback and how Assessment activities requires that students collaborate and create new knowledge.

### **3. Research Design**

#### **3.1. Methods and Data Collection**

Mixed method design was used for the study which collected both qualitative and quantitative data. The study adopted descriptive survey design which is useful when collecting information about people's attitudes, opinions, and habits. A descriptive correlational research design used both qualitative and quantitative data. The study focused on Chandaria school of Business because it is the biggest school in the university, it has an already running online Master of Business Administration (MBA) which is accredited by both Commission for University Education (CUE) and Western Association of Schools and Colleges (WASC). USIU-Africa is now moving towards being certified as an Open Distance and eLearning (ODEL) center which will enable most of the masters programmes to be offered in a blended or online mode of delivery. Thus, the School of Business provides a strong case of investigating authentic online learner assessment. Both qualitative and quantitative data were collected using interviews, focus group discussions and questionnaires with both structured and unstructured questions.

The study adopted a census survey of the Chandaria school of business. A census survey was chosen for the Chandaria school of business because the school is small with a few programmes which were all considered for the study. Therefore, the sample size for this study was the entire Chandaria School of Business. Two focus group discussions were done in terms of departments, the department of Business Administration comprised of one focus group while the departments of Accounting, Finance and economics was combined with that of Hospitality and Restaurant Management. Transcription was done from the focus group discussions and used to enhance quantitative output. Focus group discussions were analyzed and themes to enhance the quantitative data that was received.

The first research question targeted quality control teams and the dean of Chandaria School of Business to establish the standards of online assessments. For this question the leaders were interviewed conveniently based on the type of data being sought by the researchers. Faculty members were grouped in focus group discussions and interview questions discussed in detail.

The 2<sup>nd</sup> and 3<sup>rd</sup> research questions were investigative in nature. All faculty in the school of business were targeted to provide information on the digital tools which they were using for online student assessment and factors which affect online exam credibility. Question two focused on digital tools used in online assessments while the third question focused on factors which affect assessment credibility. Questions four and five were correlational with both independent and dependent variables. The two questions focused on the extent to which formative and summative assessments affected authentic learner performance. Structured questionnaire with closed ended questions were administered among the faculty members within the school of business to collect quantitative data presented on likert scale format required for the research questions.

### **3.2. Data Analysis**

Analysis for qualitative data from interviews and Focus Group Discussions (FGD) was analyzed through a common theming method. The interview feedback and the output from the FGD were read and the common themes established based on the interview guide. The themes were presented and direct quotations which seemed to elicit important insights captured verbatim. While quantitative data will be analyzed using inferential statistics. Post hoc tests were also done to establish comparisons amongst departments and age category in the school of business.

Post hoc tests were done to establish comparisons amongst departments and age category in the school of business to establish the status of online assessment. Exploratory factor analysis was used to answer research question 4 through factor reduction, screening of the factors by plotting the scree graph and then establishing significant factors affecting

online exam credibility. In the final analysis of this research question, significant factors were identified with variety of variables described as key contributors to online exam credibility. Regression analysis was used to establish the extent to which formative and summative assessments contribute to authentic learner assessment. In regression analysis the study further used model summary, ANOVA and coefficient tables outputs were used to interpret the findings and establish the conclusions.

## 4. Research Findings and Results

### 4.1. Response Rate

This study adopted a census survey. All full-time faculty in the school of business were targeted by the study to provide data both through questionnaires, focus group discussions and interviews. The total number of full-time faculty is 43. Two faculty members in the ranks of full professor and associate professor were used in piloting the study and establishing validity of the research instruments therefore not included in the study. The response rate therefore is  $43-2=41$ . The total number of respondents were 36, 2 of the questionnaires were partially filled, so could not be included in the study. Therefore, the total number of usable questionnaires collected were 34. The response rate for this study is  $34/41*100$  which is 82.92 which is approximately 83% being the response rate for this study.

### 4.2. Reliability and Validity of Validity of Research Instruments

#### 4.2.1 Reliability of the Research Instruments

**Table 4.1.**

*Reliability Statistics*

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	n of Items
.930	.939	81

Reliability is an important measure of internal consistency in research. This study used Cronbach's alpha measures the internal consistency of the data collection instruments. The coefficient measures internal consistency and the average correlation between statements ranging between 0 and 1. According to Kumar (2019) higher alpha coefficient values mean there is consistency among the items in measuring the concept of interest. A Cronbach's alpha ( $\alpha$ ) of more than 0.7 is considered acceptable while a Cronbach's alpha

( $\alpha$ ) of less than 0.7 is considered questionable and normally requires that the questionnaire items be rechecked and aligned to the variables of study. The Cronbach's alpha coefficient of this study was .930 which is an indication of high level of internal consistency.

#### **4.2.2 Validity of the Research Instruments**

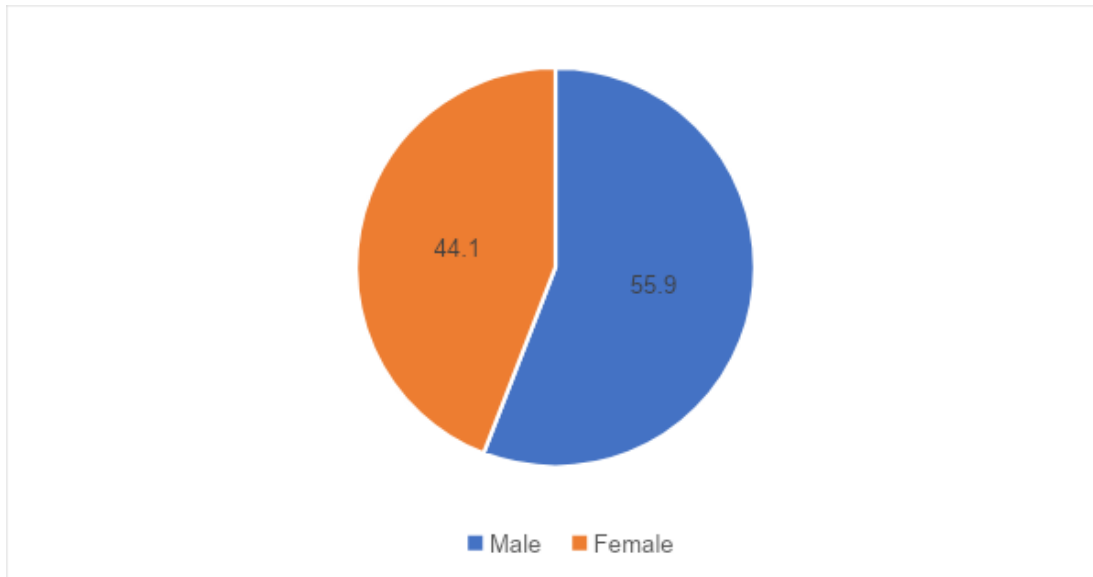
Validity is the extent to which results acquired from the research process embodies or speaks to the phenomenon under study. There are three types of validity namely face validity, content validity and construct validity. Face validity refers to the extent to which questions reflect accurately what it was intended to measure. Content validity refers to the degree to which a measure depicts facets of the social construct being studied. Construct validity tests how accurate a set of questions measure the presence of a construct (Saunders & Lewis, 2016; Devi, 2017). In this study, face validity was done through a pilot test which led to modifying unclear and ambiguous questions, content validity focused on improving questions using opinions of experts while construct validity was addressed using confirmatory factor analysis to show how well a measure represents a construct.

#### **4.3. Demographic Information**

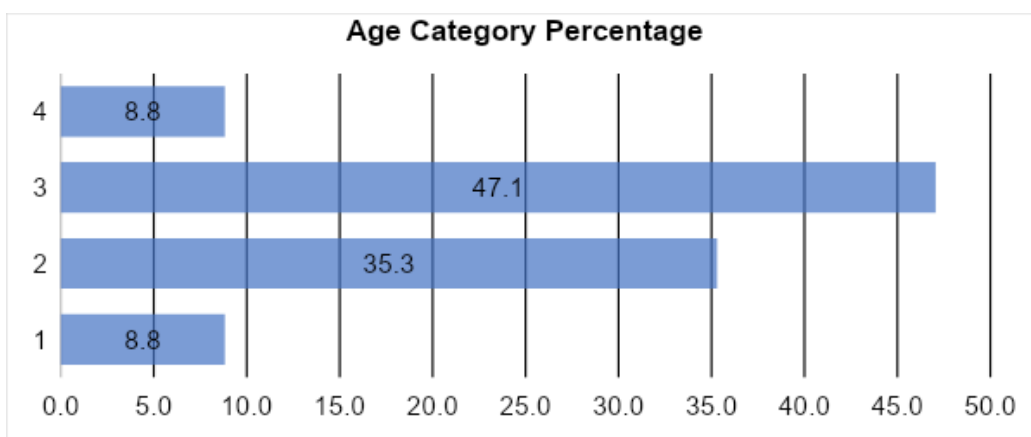
The respondents were asked to provide some demographic information for the study. This covered gender, age category, the department they are working in the school, designation, working experience within the university. The responses were analyzed using frequency and percentages. The results are shown below.

##### **4.3.1 Gender of the Respondents**

According to Figure 4.1 below, 56% of respondents were male and 44% were female. The findings indicate that respondents of both genders took part in the study, However, it is noted that male faculty dominate the school. This implies that both men and women teach at the Chandaria school of Business at USIU-Africa.

**Figure 4.1:***Gender of the participants***4.3.2 Age Category**

The study results presented in Figure 4.2 indicate that most respondents were between the ages of 50 and 60 years of age, which made up 47.1%. This was followed by those aged 40 to 50 at 35.3 %, those aged above 60 years, and those between 31 to 40 years at 8.8%. These findings suggest that most faculty in the school of business were middle-aged while a small number were elderly above 60 years, and a small number were young below the age of 40 years. Most people join teaching at an advanced age due to long career development and a requirement to have a PhD, which takes many years to achieve.

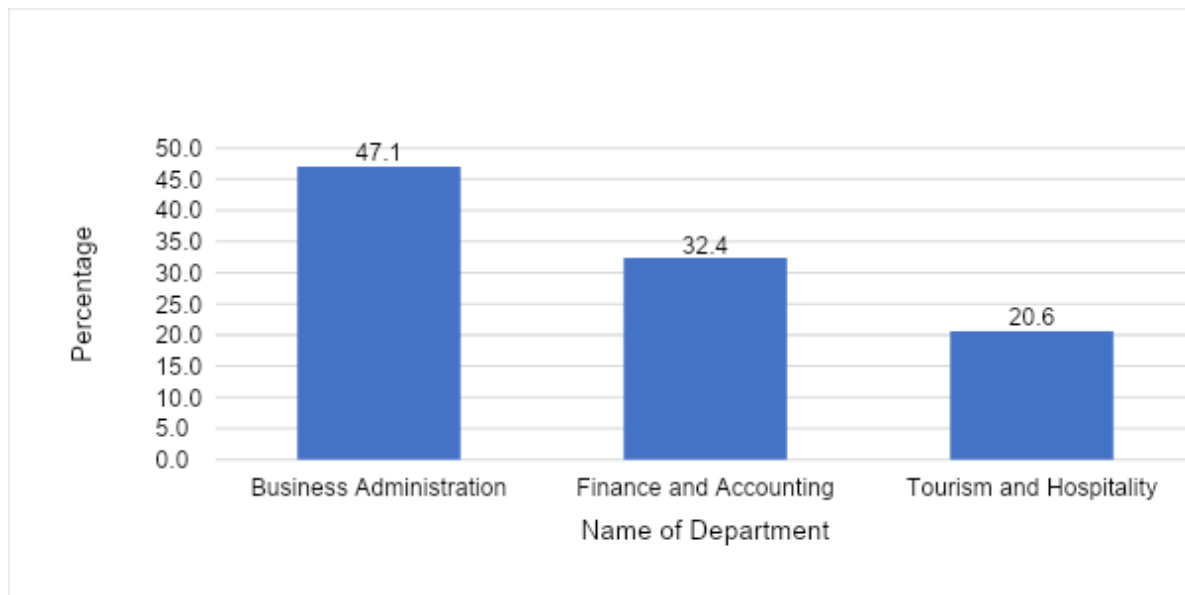
**Figure 4.2***Age of faculty in the School of Business*

### 4.3.3 Department of Respondents

Figure 4.3 indicates that the majority of respondents belonged to the faculty of Business Administration which constituted 47.1%, on the other hand finance and accounting departments constituted 32.4% of the respondents. Tourism and hospitality had the least respondents amounting to 20.6%. These findings show that business administration was the largest department in Chandaria school of business. It is also the department that houses online MBA.

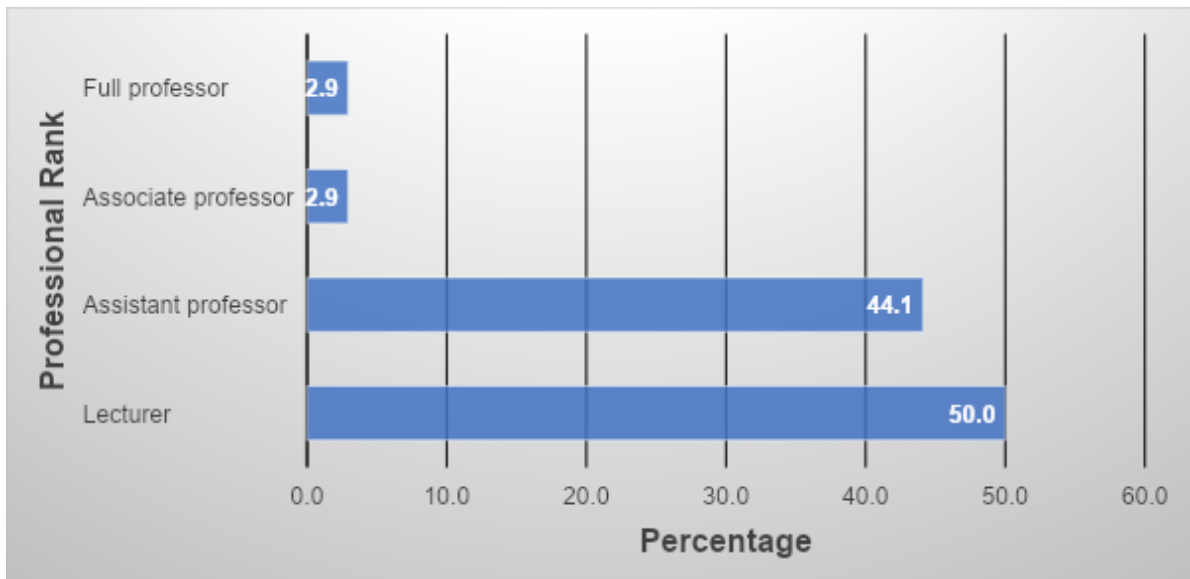
**Figure 4.3:**

*Departments in the School of Business*



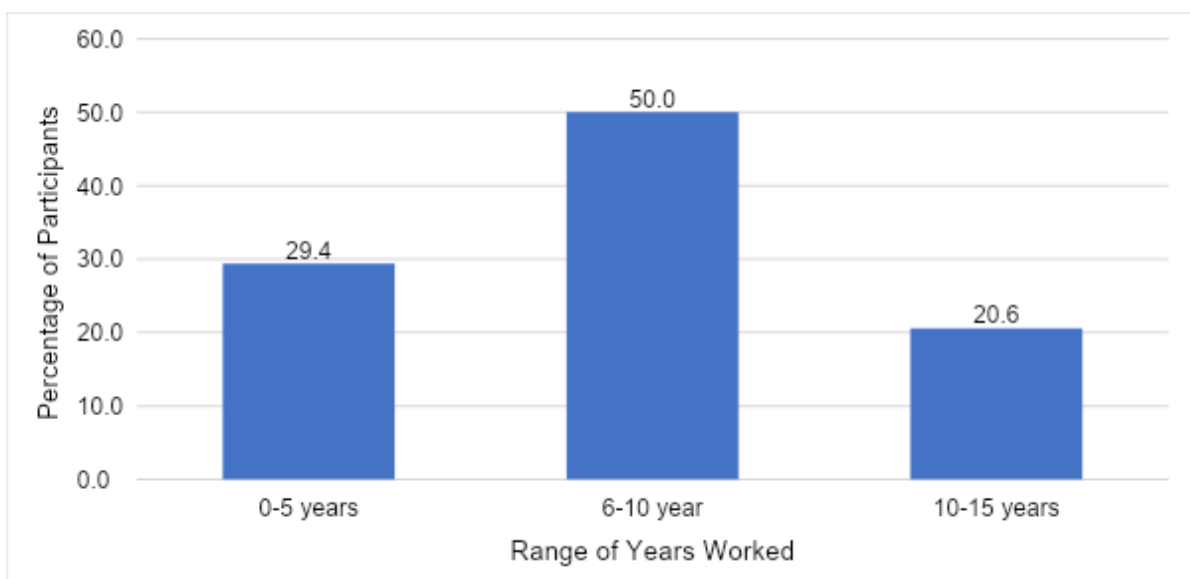
### 4.3.4 Faculty Members' Designation

The results in figure 4.4 show that the majority of the respondents held lecturer position making 50.0% of the total respondents. The second majority were assistant professors which comprised 44.1% while the least were associate professors and full professors which comprised 29%. The findings imply that most faculty members belong to the lower professional ranks. They therefore have less experience and require professional support.

**Figure 4.4:***Designation of the Respondents*

#### 4.3.5 Working Experience

Figure 4.5 show that 50% of the respondents who were majority of the respondents held lecturer position making 50.0% of the total respondents had worked for USIU-Africa between 6-10 years. Those between 0-5 years made 29.4% while those between 10-15 years made 20.6% of the total number of respondents. The findings imply that most faculty had good working experience which could enhance their teaching approaches through the learning curve.

**Figure 4.5:***Working Experience of the respondents*

#### 4.4 Status of online Assessments in the School of Business at USIU-Africa

The first objective of the study sought to establish the status of online assessment in the school of business. This objective was achieved by collection of qualitative data through open ended questions and focus group discussions. Two focus group discussions were held in the school of business. One focus group comprised of faculty members from the departments of finance, accounting and hospitality and restaurant management while the second focus group discussion comprised of faculty members from the department of business administration as seen from the first and second photo images. Post hoc tests were also done to establish comparisons amongst departments and age category in the school of business.

**Table 4.2:**

*Post Hoc tests of Multiple Comparisons of Departments on status of Online Assessment*

Multiple Comparisons						
Dependent Variable: Status of online assessment						
(I) Please indicate your department	(J) Please indicate your department	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Business Administration	Finance and Accounting	-.08920	.21868	.967	-.6374	.4590
	Tourism and Hospitality	.01339	.25302	1.000	-.6108	.6376
Finance and Accounting	Business Administration	.08920	.21868	.967	-.4590	.6374
	Tourism and Hospitality	.10260	.26995	.973	-.5728	.7780
Tourism and Hospitality	Business Administration	-.01339	.25302	1.000	-.6376	.6108
	Finance and Accounting	-.10260	.26995	.973	-.7780	.5728

Post hoc tests were done to compare multiple categories in terms of the departments and age categories to establish whether they are significant. The three departments of Business administration, Finance and accounting and tourism and hospitality were assessed on the status of online at the Chandaria school of business. The findings indicated that there was no significant difference from the mean amongst the three departments in the school of business meaning that all departments posted similar feedback as far as status of online assessment is concerned.



**Table 4.3:***Significance of status of online assessment per Department*

Status of online assessment		
Please indicate your department	N	Subset for alpha = 0.05
		1
Tourism and Hospitality	7	3.8429
Business Administration	16	3.8563
Finance and Accounting	11	3.9455
Sig.		.966

Means for groups in homogeneous subsets are displayed.  
a. Uses Harmonic Mean Sample Size = 10.126.  
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Table 4.3 indicates that the findings are not significant as the output posted was .966 while significance threshold is normally at .05 while the group sizes were unequal, there were no significant differences between the departments in the business school.

**Table 4.4:***Multiple Comparisons of Age category on status of Online Assessment*

Kindly indicate your age category		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
31-40 years	40-50 years	-1.27500*	.34678	.009	-2.3169	-.2331
	50-60 years	-.99375*	.28566	.008	-1.7939	-.1936
	Above 60 years	-.86667	.37073	.221	-1.9834	.2501
40-50 years	31-40 years	1.27500*	.34678	.009	.2331	2.3169
	50-60 years	.28125	.25382	.928	-.4441	1.0066
	Above 60 years	.40833	.34678	.924	-.6336	1.4503
50-60 years	31-40 years	.99375*	.28566	.008	.1936	1.7939
	40-50 years	-.28125	.25382	.928	-1.0066	.4441
	Above 60 years	.12708	.28566	1.000	-.6731	.9272
Above 60 years	31-40 years	.86667	.37073	.221	-.2501	1.9834
	40-50 years	-.40833	.34678	.924	-1.4503	.6336
	50-60 years	-.12708	.28566	1.000	-.9272	.6731

\*. The mean difference is significant at the 0.05 level.

The findings in Table 4.3 show different age categories of the respondents from the Chandaria School of Business. The age categories were ages between 31-40 years, 40-50 years, 50-60 years, and those above 60 years. The table indicates that there is a significant difference from the mean for the faculty aged between 31 and 40 years. It implies that on the status of online assessment, the age bracket between 31 and 40 does not hold the same views as the rest of the faculty in the other age bracket. Therefore, they should be probed and interrogated to provide other insights on the status of online assessment.

**Table 4.5:***Significance of Age category on status of Online Assessment*

<b>Status of online assessment</b>			
<b>Kindly indicate your age category</b>	<b>N</b>	<b>Subset for alpha = 0.05</b>	
		<b>1</b>	<b>2</b>
31-40 years	3	2.9000	
Above 60 years	3	3.7667	3.7667
50-60 years	16		3.8938
40-50 years	12		4.1250
Sig.		.070	.845

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4.528.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

While the findings from Table 4.4 are at .070, it is closer to 0.050, which is the threshold of being significant. It is also noted that the frequency of the participants is few, with the age category of those faculty between the ages of 31-40 years being only 3.

#### **4.4.1 Qualitative Analysis of the Status of Online Assessments**

The respondents indicated that online assessment which was normally used during emergency Remote Teaching and Learning (ERT&L) included a variety of activities done on blackboard LMS. They included but not limited to discussion forums, assignments done in breakout rooms which were presented to the rest of the class in the plenary sessions, continuous assessment tests (CATs), individual research term papers and group projects based on cases. Submitted research papers were subjected to antiplagiarism tool-safe assign which evaluated the assignments and generated a percentage match with other sources on the web. It was noted by the respondents that some assignments were done in class, others in breakout rooms while others were takeaways.

Main exams which were time constrained were done under the examination proctoring tools; the lockdown browser, lockdown monitor and zoom for online invigilation. The lockdown browser locks the student to the exam environment and prohibits the students from accessing any other browser during the exam period. This functionality prohibits issues of copying and pasting from other websites. The lockdown monitor on the other hand audits the examination environment including the face, sitting position and other accessories used during the exam. In case of a change in the exam environment, the monitor shuts the exam browser and generates a report to the examiner for investigation. At the beginning it was noted that feedback was given only based on the blackboard customized marking rubric, later it was noted that the annotation tool that was added on blackboard enabled the examiners to provide written comments in the submitted document assignments.

#### **4.5. Extent of using Educational Technology Tools in Course Assessment**

This second objective of the study focused on the extent to which faculty use educational technology tools in course assessment. This objective was achieved by analyzing descriptive statistics and presentations done on graphs.

**Table 4.6:***Descriptive Statistics of Educational Technology Tools*

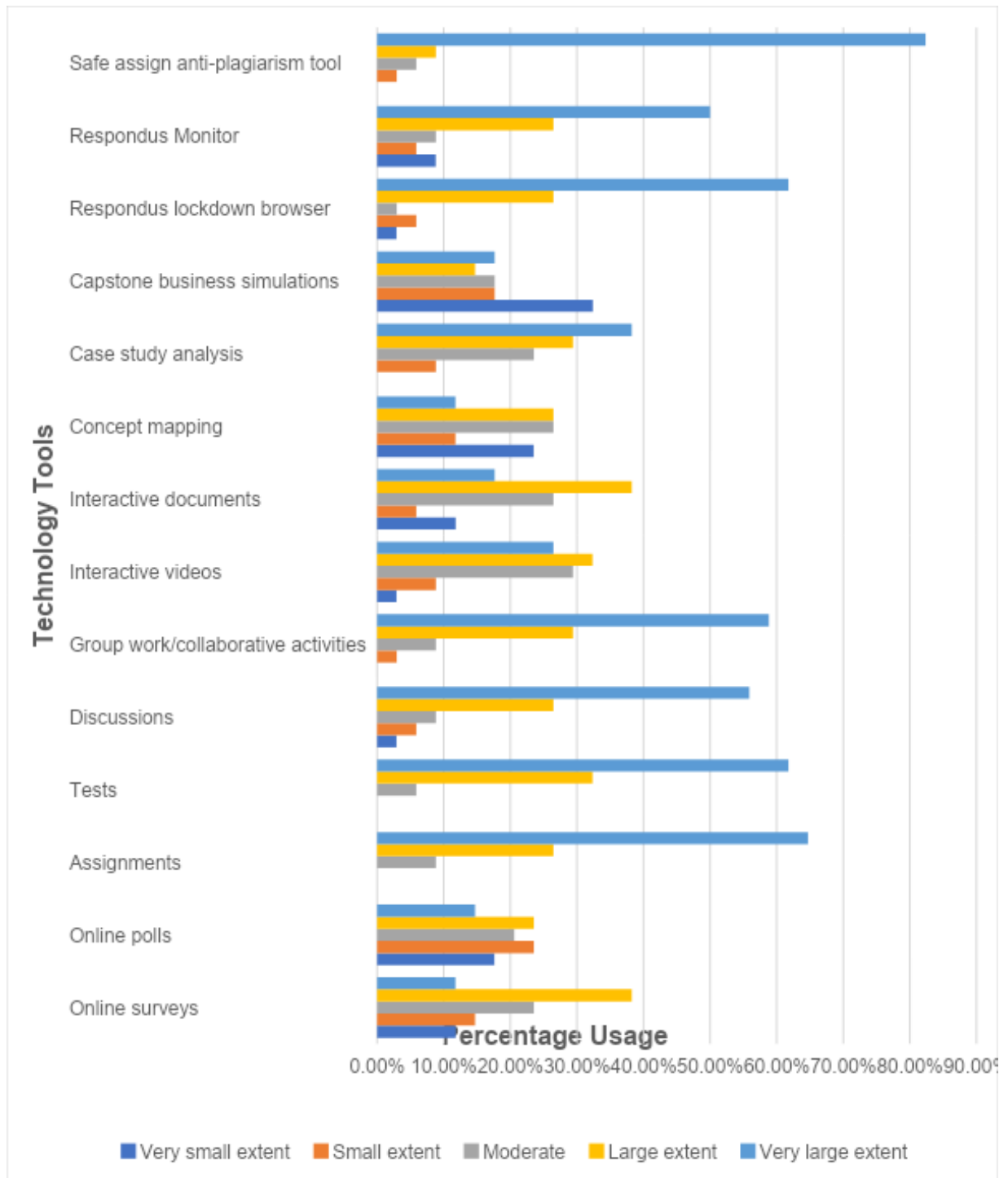
Descriptive Statistics						
	n	Sum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Online surveys	34	109	3.21	1.274	-.691	.403
Online polls	34	99	2.91	1.401	-.115	.403
Assignments	34	155	4.56	.660	-1.236	.403
Tests	34	155	4.56	.613	-1.078	.403
Discussions	34	145	4.26	1.053	-1.562	.403
Group work/collaborative activities	34	151	4.44	.786	-1.386	.403
Interactive videos	34	126	3.71	1.060	-.499	.403
Interactive documents	34	115	3.38	1.349	-1.073	.403
Concept mapping	34	98	2.88	1.409	-.263	.403
Case study analysis	34	135	3.97	1.000	-.519	.403
Capstone business simulations	34	89	2.62	1.596	.153	.403
Respondus lockdown browser	34	149	4.38	1.015	-1.966	.403
Respondus Monitor	34	137	4.03	1.291	-1.316	.403
Safe assign anti-plagiarism tool	34	160	4.71	.719	-2.606	.403
Valid N (listwise)	34					

The mean ranged from 2.62 to 4.71 meaning that the respondents seemed to agree that the educational technology tools were used to some extent in online assessment. Several tools were listed, and it is clear from the responses that they were all in use within the Chandaria school of business at varying levels. On the other hand, the standard deviation ranged from .666 to 1.596 meaning that while participants agreed that educational technology tools were in use in the school of business, respondents varied in the application of the educational tools.

**Table 4.7:***Percentages of use of Technology Tools*

		Very small extent	Small extent	Moderate	Large extent	Very large extent
	Row n %	Row n %	Row n %	Row n %	Row n %	Row n %
Online surveys	2.9%	8.8%	14.7%	23.5%	38.2%	11.8%
Online polls	2.9%	14.7%	23.5%	20.6%	23.5%	14.7%
Assignments	0.0%	0.0%	0.0%	8.8%	26.5%	64.7%
Tests	0.0%	0.0%	0.0%	5.9%	32.4%	61.8%
Discussions	0.0%	2.9%	5.9%	8.8%	26.5%	55.9%
Group work/collaborative activities	0.0%	0.0%	2.9%	8.8%	29.4%	58.8%
Interactive videos	0.0%	2.9%	8.8%	29.4%	32.4%	26.5%
Interactive documents	5.9%	5.9%	5.9%	26.5%	38.2%	17.6%
Concept mapping	2.9%	20.6%	11.8%	26.5%	26.5%	11.8%
Case study analysis	0.0%	0.0%	8.8%	23.5%	29.4%	38.2%
Capstone business simulations	5.9%	26.5%	17.6%	17.6%	14.7%	17.6%
Respondus lockdown browser	0.0%	2.9%	5.9%	2.9%	26.5%	61.8%
Respondus Monitor	0.0%	8.8%	5.9%	8.8%	26.5%	50.0%
Safe assign anti-plagiarism tool	0.0%	0.0%	2.9%	5.9%	8.8%	82.4%

The descriptives as shown on Table 4.7 indicates that columns of moderate, large extent and very large extent yielded more percentage while the columns of very small and small extent contributed to less percentage in terms of the usage of educational technology tools. The descriptive table was represented in graphical form to enable interpretation of each of the educational technology tools as shown in Figure 4.8.

**Figure 4.8:***Extent of Use of Technology Tools*

From Figure 4.8, SafeAssign is the technology tool that was used most with a percentage of 80 percent. This is because all assignments including term papers and projects by requirement are evaluated using the safe assign anti plagiarism tool. On the other hand, the least tool used was concept mapping with a percentage of 12 percent. This

may be explained by the fact that the majority of the faculty may not understand the use of concept mapping.

Other educational technology tools which were used above the threshold of 50% include respondus lockdown browser, respondus monitor, group based collaborative activities, discussion forums, online tests, and other digitally assisted assignments. However, on the other hand, educational technology tools which were used well below the 20 percent threshold included capstone business simulations, interactive documents, interactive videos, online surveys, and online polls. The use of capstone business simulation was dismal because it is a course specific capstone only used in strategic management course. Other educational tools like interactive documents, interactive videos, online surveys, and online polls also registered dismal use meaning that faculty do not understand them or do not relate their value to course teaching and assessment.

#### **4.5.1 Educational Technology Tools**

The respondents listed several educational technology tools which were being used in the school. Some of the tools were used for teaching, others for assignments while others were used for the examinations. The educational technology tools which were used for teaching were zoom, Blackboard LMS, WhatsApp groups, blackboard email, telegram, Smart phones, power point slides, laptops, and desktops. Those listed as being used in the assignments were breakout rooms, blackboard assignment functionality, reflective journal, blogs, zoom, safe assign, discussion forums, jam boards and YouTube videos. On interactive assignments one of the respondents had the following to say about blogs.

*“I start a blog on an interesting and current topic covered in class, I encourage students to contribute to the blog and then comments on each other’s blogs. By so doing they learn and contribute to knowledge given in class. I award marks for blogging and so all students are compelled to make contributions.”*

In terms of the examinations the respondents listed zoom, blackboard, respondus lockdown browser, respondus monitor and safe assign. The examination proctoring tools raise the examination integrity and enable faculty to supervise the examinations just like in physical classes.

#### **4.6 Factors Affecting Online Assessment Credibility**

The third objective focused on the factors influencing online assessment credibility. This objective was achieved first and foremost by establishing the descriptive statistics, establishing the significance of the factors using KMO and Bartlett test of sphericity, extraction of factor loadings to establish the factors with eigen values more than 1, plotting

the values on a screen graph and rotating component values to show factors which significantly affected online assessment credibility.

#### 4.6.1 Descriptive Statistics of Factors Affecting Online Assessment Credibility

**Table 4.8:**

*Descriptives of Factors Affecting Online Assessment Credibility*

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Analysis n</b>
Student characteristics	4.18	.999	34
Peer pressure	3.71	1.315	34
Student preparedness	4.21	1.274	34
Understanding of course content	3.85	1.417	34
Testing environment	4.41	.743	34
Understanding of assessment items	3.97	.969	34
Variety of questions	4.12	.729	34
Familiarity with assessment tools	4.09	.830	34
Student online support during assessment	4.21	.946	34
Level of alignment to the outcomes	3.91	.996	34
Course design	3.94	1.301	34
Learning content	4.15	1.105	34
Course activities	4.03	1.058	34
Course interactivity	4.00	.921	34
Content mastery by the instructor	4.21	1.095	34
Instructor presence	4.09	1.026	34
Course accessibility	4.15	.989	34
Communication effectiveness	4.47	.929	34
Assessment reliability	4.29	.906	34
Frequency of assessment	4.06	1.071	34
Provision of assessment rubrics	3.74	1.263	34
Availability of educational technology assessment tools	4.24	1.017	34
LMS accessibility	3.68	1.571	34
LMS support through training	3.59	1.520	34
Provision of online budget	3.41	1.480	34
Wi-Fi	4.47	.929	34
Working efficient computers	4.24	1.208	34
Training on online pedagogy	4.09	1.311	34
Training on content development	4.15	1.019	34
Training on criteria of online assessment	4.12	1.066	34

Table 4.8 shows the mean and the standard deviation of the factors affecting online assessment credibility. The mean of the respondents ranged from 3.41 to 4.47 meaning that the respondents agreed that factors outlined in the instrument affected online assessment credibility. However, in terms of deviation on the factors which affected online exam credibility ranging from .721 and 1.520 meaning that the respondents had varied ideas on the factors which affects the credibility of online assessment.



#### 4.6.2 KMO of Factors Affecting Online Assessment Credibility

**Table 4.9:**

*KMO Bartlett's Test of Factors Affecting Online Assessment Credibility*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.335
Bartlett's Test of Sphericity	Approx. Chi-Square	1190.527
	df	435
	Sig.	.000

The KMO and Bartlett's Test shown above indicates sampling adequacy of .335 against a threshold of .500 which is very good. Test of sphericity is significant at 0 .000. This implies that the sampling of respondents in the School of Business was adequate for the study. Further the results were significant.

#### 4.6.3 Total Variance of Factors Affecting Online Assessment Credibility

**Table 4.10:**

*Extraction of Factors Affecting Online Assessment Credibility*

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.781	39.271	39.271	11.781	39.271	39.271	8.016	26.720	26.720
2	3.190	10.635	49.906	3.190	10.635	49.906	3.952	13.172	39.891
3	2.696	8.987	58.893	2.696	8.987	58.893	3.555	11.851	51.742
4	1.976	6.587	65.480	1.976	6.587	65.480	3.138	10.459	62.201
5	1.885	6.284	71.764	1.885	6.284	71.764	2.375	7.918	70.119
6	1.733	5.777	77.541	1.733	5.777	77.541	1.927	6.422	76.542
7	1.003	3.342	80.883	1.003	3.342	80.883	1.303	4.342	80.883
8	.956	3.187	84.070						
9	.767	2.555	86.626						
10	.696	2.321	88.946						
11	.619	2.063	91.009						
12	.501	1.671	92.680						
13	.416	1.386	94.067						
14	.306	1.019	95.086						
15	.277	.925	96.011						
16	.241	.802	96.813						
17	.204	.682	97.494						
18	.188	.626	98.120						
19	.171	.569	98.689						
20	.139	.464	99.154						
21	.079	.263	99.416						
22	.061	.204	99.621						

23	.043	.144	99.765						
24	.027	.091	99.855						
25	.017	.058	99.914						
26	.012	.039	99.952						
27	.011	.035	99.987						
28	.003	.010	99.997						
29	.001	.002	99.999						
30	.000	.001	100.000						

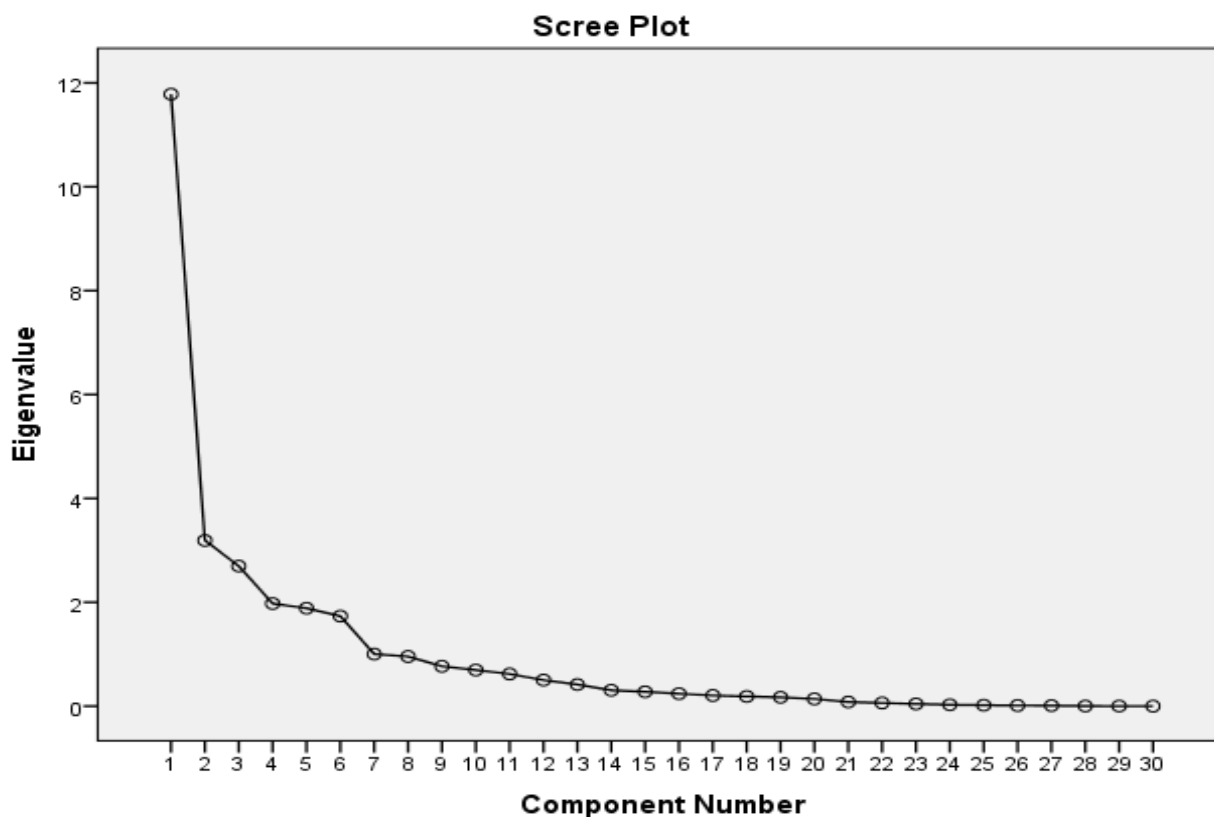
Extraction Method: Principal Component Analysis

From Table 4.10, seven factors were extracted with Eigenvalues above 1.003 above the threshold is normally all the factors above 1(one). The factors extracted had a total eigenvalues of 23.754 meaning that these factors explained the total variance 23.75% of all the factors considered in the study. This implies that these factors are strongly associated with subcomponents which influence the credibility of online assessment.

#### 4.6.4 Scree Plot of Factors Affecting Online Assessment Credibility

**Figure 8:**

*Scree Plot of Factors affecting Online Assessment Credibility*



The scree plot shown in figure 8 indicates that seven factors strongly contribute to online assessment credibility. Therefore, seven factors out of a total number of 30 factors accounted for the 23.754 variance of all factors which online exam credibility.

#### 4.6.5 Rotated Component Matrix of factors affecting online Assessment credibility.

**Table 4.11:**

*Rotated Matrix of factors affecting online Assessment credibility*

	Rotated Component Matrix <sup>a</sup>						
	Component						
	1	2	3	4	5	6	7
Student characteristics	.024	.147	-.274	.115	.800	.025	.116
Peer pressure	-.289	.065	.131	-.072	.389	.741	.062
Student preparedness	-.037	.088	-.173	.172	-.013	.882	-.100
Understanding of course content	.389	.000	-.242	-.143	-.295	.598	-.099
Testing environment	.621	.086	-.066	.050	.405	.072	-.361
Understanding of assessment items	.158	.822	.041	-.201	.189	.201	.010
Variety of questions	.694	.235	-.157	.182	.127	-.057	-.255
Familiarity with assessment tools	.625	.168	.111	.052	.532	.119	-.016
Student online support during assessment	.264	.201	-.010	.724	.395	.057	.038
Level of alignment to the outcomes	.570	.132	.495	.101	.432	-.084	.147
Course design	.488	.732	.041	.125	.228	-.036	.113
Learning content	.825	.169	.069	.189	.285	-.064	-.012
Course activities	.829	.029	.375	.026	.122	-.018	.172
Course interactivity	.795	-.021	.293	-.103	.114	.025	.063
Content mastery by the instructor	.832	.079	.045	.113	-.283	.098	.068
Instructor presence	.597	.297	.601	-.020	-.206	-.039	.046
Course accessibility	.679	.202	.325	.348	-.113	.058	.121
Communication effectiveness	.822	.290	.205	.250	-.066	-.015	.029
Assessment reliability	.808	.288	.063	.237	.017	-.130	.042
Frequency of assessment	.509	.285	.362	.121	.501	.071	.381
Provision of assessment rubrics	.128	.289	.127	.308	.255	-.098	.698
Availability of technology assessment tools	.591	.251	.302	.276	.096	-.187	-.097
LMS accessibility	.195	.086	.934	.090	-.060	-.094	.054
LMS support through training	.171	.065	.922	.116	-.069	-.146	.040
Provision of online budget	.173	.044	.539	.364	.024	.183	-.502
Wi-Fi	.454	.280	.143	.657	.122	.064	.184
Working efficient computers	.113	-.096	.112	.907	-.040	-.009	-.025
Training on online pedagogy	.097	.617	.192	.674	-.025	-.029	.133
Training on content development	.099	.885	.102	.286	.059	-.066	-.051
Training on criteria of online assessment	.255	.857	.084	.102	.007	.084	.152

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

The rotated component matrix was able to identify seven factors with various components which had loadings greater than 0.5. Factor one had fourteen, factor two had four components, factor three had three components, factor four had four components, factor five had one, factor six had three components while factor seven had one component. The components are outlined as below.

##### *Factor 1 authentic assessment and course delivery*

- Testing environment
- Variety of questions
- Familiarity with assessment tools

- Level of alignment to the outcomes
- Learning content
- Course activities
- Course interactivity
- Content mastery by the instructor
- Instructor presence
- Course accessibility
- Communication effectiveness
- Assessment reliability
- Frequency of assessments
- Availability of assessment reliability tools

*Factor 2 Faculty assessment training support*

- Understanding of assessment items
- Course design
- Training on content development
- Training on criteria of online assessment

*Factor 3 LMS training and online budgetary support*

- LMS accessibility
- LMS support through training
- Provision of online budget

*Factor 4 student support through hardware and software accessories*

- Student online support during assessment
- Provision of stable and reliable wifi
- Working and efficient computers
- Training on online pedagogy

*Factor 5 student characteristics*

- Student characteristics

*Factor 6 student environment and mastery of content*

- Peer pressure
- Student preparedness
- Understanding of course content

*Factor 7 Marking rubrics*

- Provision of assessment rubrics

#### 4.6.6. Qualitative Data on Factors Affecting Exam Credibility

The research also sought to establish the factors which affected the examination credibility. A multiplicity of factors were outlined and discussed by the respondents. They included; online assessment, multiplicity of equipment given in an exam, access to stable Wi-Fi connectivity, unauthorized collaboration when the exam environment is not proctored, giving students extra time, multitasking while doing exam including selling in shop during an exam, exam done at the workplace, impersonation of other students, unfamiliarity with students especially if the instructor has not met them physically, lack of proper identification of students during an exam, setting of an exam copied easily through recall or direct from the notes, setting of application, lack of training of how to set open-book questions, log-in and disappear from the laptop by the students. One of the respondents had the following to say about exam credibility.

*“Some students sell in a warehouse while classes are ongoing, a camera showed a student selling hardware items in a shop while some students log on and disappear from the laptop to multitask during classes. Such students loose on important class time miss a lot in the process of multitasking, come exam time such students do not have enough content and may have not grasped key concepts which are normally examined. Such students are likely to cheat during the exams”.*

While brainstorming on how the exam credibility could be handled, they indicated that open book improves exam credibility because the approach encourages higher order thinking, instructors should not google questions because those sites are easily accessible by the students, use innovation and creativity to modify the questions that have been used previously, get questions from different sources. Use of case studies elicit high level questions which can't be copied because they require students to think creatively and apply the concepts and theories answering the questions. Another respondent had the following to say about an approach to guard against exam credibility.

*“I host on-camera classes every week to ensure that I know my students for each class I teach. At the beginning of the class, I ask to find out those with microphone and video problems to avoid excuses when called upon to use microphone and stay on video, those with problems I ask them to indicate how and when they intend to resolve the issue so that it is not an everyday excuse. When it comes to exam, I mix questions from five different sources on Blackboard, I only show one question at a time and randomize the questions”.*

#### 4.7 Contribution of Formative Assessment to Authentic Learner Assessment

The fourth objective of the study focused on the extent to which formative assessment contributed to authentic learner assessment. This objective was achieved through regression analysis. A composite variable of authentic learner assessment was computed. Items of authentic assessment were regressed against authentic assessment variables. Three tables of model summary, ANOVA table and coefficients tables were isolated and used to analyze the findings of the study objectives.

##### 4.7.1 Model Summary of Contribution of formative Assessment to Authentic Learner Assessment

**Table 4.12:**

*Model Summary of Contribution of Formative Assessment to Authentic Learner Assessment*

Model Summary <sup>b</sup>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.703 <sup>a</sup>	.495	.275	4.82673	.495	2.252	10	23	.052	1.493

a. Predictors: (Constant), Case analysis, Concept maps, Class discussion, Interactive google documents, office 365, PowerPoint slides, google slides, google sheets, Informal quizzes, Peer and self-assessment, Practice quizzes, Learning Journals, Interactive videos, Drafts or components toward a major paper or project  
 b. Dependent Variable: AuthenticVar

The model summary shows the amount of change that formative assessment contributes to authentic learner assessment. From the findings presented in Table 4.12, the R<sup>2</sup> value is 0.495, an indication that formative assessment contributes 49.5% of the authentic learner assessment at USIU-Africa in Chandaria School of Business. The remaining 50.5% is caused by other factors not considered in the study and the error term. Therefore, aspects of formative assessment include Case analysis, Concept maps, Class discussion, interactive Google documents, office 365, PowerPoint slides, Google Slides, and Google Sheets. Informal quizzes, Peer and self-assessment, Practice quizzes, Learning Journals, Interactive videos, Drafts or components toward a major paper or project. Have important positive contribution to authentic learner assessment, which comprises of the assessments challenging and connecting real-world ideas with concepts and theories, measuring the learning outcomes, measure the intended transferred knowledge and skills, focusing on metacognition by means of critical reflection, provide accurate information, ensuring authentic student output and requirements for collaborative discussions and feedback.

#### 4.7.2 ANOVA table of Contribution of formative Assessment to Authentic Learner Assessment

**Table 4.13:**

*ANOVA of Contribution of Formative Assessment to Authentic Learner Assessment*

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	524.544	10	52.454	2.252	.052 <sup>b</sup>
	Residual	535.838	23	23.297		
	Total	1060.382	33			

a. Dependent Variable: AuthenticVar

b. Predictors: (Constant), Case analysis, Concept maps, Class discussion, Interactive google documents, office 365, PowerPoint slides, google slides, google sheets, Informal quizzes, Peer and self-assessment, Practice quizzes, Learning Journals, Interactive videos, Drafts or components toward a major paper or project

Table 4.13 presents the results for the regression ANOVA for formative assessment and authentic Learner assessment. The significance of the model was .052 which is less than the threshold of significance which is normally 0.05. Therefore, there is a significant linear relationship between formative assessment and authentic learner assessment. The model also shows the calculated F statistic was 2.252 which shows that formative assessment was significant to summative learner assessment.

#### 4.7.3 Coefficients of Contribution of formative Assessment to Authentic Learner Assessment

**Table 4.14:**

*Coefficients of Contribution of Formative Assessment to Authentic Learner Assessment*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.760	5.488		3.965	.001
	Learning Journals	-2.383	1.457	-.400	-1.636	.116
	Class discussion	1.609	.906	.308	1.777	.089
	Concept maps	-.884	.777	-.255	-1.138	.267
	Informal quizzes	3.849	1.292	.676	2.980	.007
	Peer and self-assessment	-.238	1.302	-.040	-.183	.857
	Drafts or components toward a major paper or project	1.937	1.737	.429	1.115	.277
	Practice quizzes	1.201	1.623	.235	.740	.467
	Interactive videos	-1.264	1.573	-.266	-.804	.430



Interactive google documents, office 365, PowerPoint slides, google slides, google sheets.	1.211	1.451	.241	.835	.412
Case analysis	-.824	.579	-.262	-1.424	.168
a. Dependent Variable: AuthenticVar					

Table 4.14 shows the coefficients of the contribution of formative assessment and authentic learner performance. The table shows that class discussions, informal quizzes, Drafts of major papers or projects, practical quizzes, and interactive PowerPoint slides all contribute positively towards authentic learner assessment. The findings further indicate that a unit change in class discussions causes a change of .308 of change in summative assessment. On the other hand, a unit change in formal quizzes causes a positive change of .678 of change in authentic learner assessment. The findings further indicate that a unit change in drafts towards major papers or projects causes a change of .429 in formative learner assessment. Further, practice quizzes and a combination of interactive Google documents, office 365, PowerPoint slides, Google Slides, and Google Sheets cause positive changes of .235 and .241, respectively.

#### 4.7.4 Qualitative Data on Formative Assessment Leading to Authentic Assessment

It came out clearly during the focus group discussions that formative assessment is good because it helps the instructor to see how to engage with the learner and correlate with summative assessment that comes at the end of the semester. Summative assessments provide a recap of the assignments, and it is also part of the learning on the part of the instructor when setting end of semester exam. It was also noted that assignments give an opportunity to the instructor to check the understanding of content and application of theories. One responded alluded to the following.

*"I give the assignments then go round to see how they are solving the problem associated with the example provided, We do all the illustrations while in class so that the students can understand the concepts, from the database of questions, I choose a few to show as examples to the students and then ask them to do the rest while I move round the class seeing how they are progressing".*

The discussions revealed that formative can let you know how they are progressing and an understanding of learning characteristics of different students. Some students are good at revising at the end of the exam while others do well in formative assessments. Formative assessments enable the instructor to understand cultural orientations of different students in the class. One way to ensure that all students are participating in formative

activities is to track viewers from the students, ask questions on what they are supposed to do before class, and relate what they are doing with real-life scenarios. A good example is Capstone business simulations where students are expected to run profitable business by applying concepts learnt in class to make informed managerial decisions. In entrepreneurship classes students are expected to establish and run actual business ventures after identifying a market opportunity. This enables them to understand the actual playing ground of the entrepreneurial ventures operating in the business environment.

#### 4.8 Contribution of Summative Assessment to Authentic Learner Assessment

This was done through verification of regression tables, the model summary, the ANOVA table, and the coefficients table.

##### 4.8.1 Model Summary of Contribution of Summative Assessment to Authentic Learner Assessment

**Table 4.15:**

*Model Summary of Contribution of Summative Assessment to Authentic Learner Assessment*

Model Summary <sup>b</sup>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.462 <sub>a</sub>	.214	.002	5.66351	.214	1.008	7	26	.448	1.698

a. Predictors: (Constant), End of unit chapter tests, Final projects, End of lesson quizzes, Standardized tests, Portfolios Presentations, End of semester exams, Term papers

b. Dependent Variable: AuthenticVar

The model summary which shows the amount of change that Summative assessment contributes to authentic learner assessment. From the findings presented in table 4.15, the  $R^2$  value is 0.214, an indication that summative assessment contributes 21.4% of the authentic learner assessment at USIU-Africa in Chandaria school of Business. The remaining 88.6% is caused by other factors not considered in the study and the error term. Therefore aspects of summative assessment including end of unit chapter tests, Final projects, End of lesson quizzes, Standardized tests, Portfolios Presentations, End of semester exams, Term papers important positive contribution to authentic learner assessment which comprises of the assessments challenging and connecting real world ideas with concepts and theories, measuring the learning outcomes, measure the intended transferred knowledge and skills, focusing on metacognition by means of critical reflection,

provide accurate information, ensuring authentic student output and requirements for collaborative discussions and feedback.

#### 4.8.2 ANOVA of Contribution of Summative Assessment to Authentic Learner Assessment

**Table 4.16:**

*ANOVA of Contribution of Summative Assessment to Authentic Learner Assessment*

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	226.425	7	32.346	1.008	.448 <sup>b</sup>
	Residual	833.958	26	32.075		
	Total	1060.382	33			

a. Dependent Variable: AuthenticVar  
b. Predictors: (Constant), End of unit chapter tests, Final projects, End of lesson quizzes, Standardized tests, Portfolios Presentations, End of semester exams, Term papers

Table 4.16 presents the results for the regression ANOVA for summative assessment and authentic Learner assessment. The significance of the model was .448 which is more than the threshold of significance which is normally 0.05. Therefore, there was no significant relationship between summative assessment and authentic learner assessment. The model also shows the calculated F statistic was 1.008 which shows that summative assessment was not significant to summative learner assessment.

#### 4.8.3 Coefficients of Contribution of Summative Assessment to Authentic Learner Assessment

**Table 4.17:**

*Coefficients of Contribution of Summative Assessment to Authentic Learner Assessment*

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.633	8.248		3.229	.003
	End of lesson quizzes	.025	.883	.006	.028	.978
	Standardized tests	.959	1.209	.171	.793	.435
	End of semester exams	3.525	2.364	.412	1.491	.148
	Term papers	-1.119	2.608	-.129	-.429	.671
	Final projects	-1.231	2.780	-.133	-.443	.662
	Portfolios Presentations	.645	1.559	.099	.413	.683
	End of unit chapter tests	.289	1.273	.052	.227	.822

a. Dependent Variable: AuthenticVar

Table 4.17 shows the coefficients of the contribution of summative assessment and authentic learner performance. The table shows that end of lesson quizzes, standardized

tests, end of semester exams, portfolio presentations and end of unit chapter tests all have positive contributions to authentic learner assessment. The findings indicate that a unit change in end of unit quizzes causes .006 of change in summative assessment while a unit change in standardized tests causes a positive change of .171 of change in authentic learner assessment. The findings further indicate that a unit change in end of semester exams causes a .412 change in formative learner assessment. Further, portfolio presentations and end of unit chapter tests causes positive changes of .099 and .052 respectively in summative learner assessment.

#### **4.8.4 Qualitative data on Summative assessment contribution to authentic learner assessment**

The respondents listed several assignments that are termed as summative assessments. They include, tests/end of term examinations, term papers, final projects, and portfolio presentations. At the Chandaria school of business, summative assessments constitute 50 % of the final evaluation as a matter of policy except a few exceptions. Normally they are used to demonstrate that learners have understood the content and have acquired the knowledge and skills required by the course learning outcomes. Case studies are used to test the application of concepts and theories and other application questions are used to demonstrate how students can relate the class content to real life situations in different contexts.

Exam moderation process facilitates authenticity of the assessment, because during moderation sessions experts in the same area verify the exam items against course objectives, level, and clarity. Comments are provided and then actioned before the exam is administered to the students.

*“A person with 2 years to retire with a plot in naming\* “Advice the way forward to this person given the age. Sometimes I calculate the questions and then ask the students to explain what is happening”.*

### **4.9. Contribution of joint Formative and Summative Assessment towards Authentic Learner Assessment**

#### **4.9.1 Model Summary of Contribution of Joint Formative and Summative Assessment towards Authentic Learner Assessment**

This was done through verification of regression tables, the model summary, the ANOVA table, and the coefficients table.

**Table 4.18:**

*Model Summary of Contribution of Joint Formative and Summative Assessment towards Authentic Learner Assessment*

Model Summary <sup>b</sup>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.809 <sub>a</sub>	.654	.286	4.79016	.654	1.777	17	16	.128	1.756
a. Predictors: (Constant), End of unit chapter tests, Final projects, Learning Journals, Interactive google documents, office 365, PowerPoint slides, google slides, google sheets, Concept maps, End of lesson quizzes, Standardized tests, Portfolios Presentations, Case analysis, Class discussion, Informal quizzes, Peer and self-assessment, End of semester exams, Practice quizzes, Term papers, Interactive videos, Drafts or components toward a major paper or project b. Dependent Variable: AuthenticVar										

The model summary shows the amount of change that the joint formative and summative assessment contributes to authentic learner assessment. From the findings presented in table 4.18, the  $R^2$  value is 0.654, an indication that formative and summative assessment contributes 66.4% of the authentic learner assessment at USIU-Africa in Chandaria school of Business. The remaining 50.5% is caused by other factors not considered in the study and the error term. Therefore aspects of both formative and summative assessments including ), End of unit chapter tests, Final projects, Learning Journals, Interactive google documents, office 365, PowerPoint slides, google slides, google sheets. , Concept maps, End of lesson quizzes, Standardized tests, Portfolios Presentations, Case analysis, Class discussion, Informal quizzes, Peer and self-assessment, End of semester exams, Practice quizzes, Term papers, Interactive videos, Drafts or components toward a major paper or project have important positive contribution to authentic learner assessment which comprises of the assessments challenging and connecting real world ideas with concepts and theories, measuring the learning outcomes, measure the intended transferred knowledge and skills, focusing on metacognition by means of critical reflection, provide accurate information, ensuring authentic student output and requirements for collaborative discussions and feedback.

#### 4.9.2 ANOVA of Contribution of joint Formative and Summative Assessment towards Authentic Learner Assessment

**Table 4.19:**

*ANOVA of Contribution of joint Formative and Summative Assessment towards Authentic Learner Assessment*

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	693.253	17	40.780	1.777	.128 <sup>b</sup>
	Residual	367.129	16	22.946		
	Total	1060.382	33			

a. Dependent Variable: AuthenticVar

b. Predictors: (Constant), End of unit chapter tests, Final projects, Learning Journals, Interactive google documents, office 365, PowerPoint slides, google slides, google sheets., Concept maps, End of lesson quizzes, Standardized tests, Portfolios Presentations, Case analysis, Class discussion, Informal quizzes, Peer and self-assessment, End of semester exams, Practice quizzes, Term papers, Interactive videos, Drafts or components toward a major paper or project.

Table 4.19 presents the results for the regression ANOVA for joint formative and summative assessment to authentic Learner assessment. The significance of the model was .128 which more than the threshold of significance which is normally 0.05. Therefore, there was no significant relationship between the joint formative and summative assessment to authentic learner assessment. The model also shows the calculate F statistic was 1.777 which shows that summative assessment was not significant to summative learner assessment.

#### 4.9.3 Coefficients of Contribution of joint Formative and Summative Assessment towards Authentic Learner Assessment

**Table 4.20:**

*Coefficients of Contribution of joint Formative and Summative Assessment towards Authentic Learner Assessment*

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.955	9.167		.977	.343
	Learning Journals	-2.238	1.533	-.376	-1.460	.164
	Class discussion	.289	1.229	.055	.235	.817
	Concept maps	-.698	.806	-.201	-.866	.399
	Informal quizzes	4.551	1.396	.800	3.260	.005
	Peer and self-assessment	1.285	1.675	.219	.767	.454
	Drafts or components toward a major paper/ project	-1.959	2.688	-.434	-.729	.477
	Practice quizzes	2.718	1.880	.533	1.446	.168

Interactive videos	-2.645	1.835	-.557	-1.441	.169
Interactive google documents, office 365, PowerPoint slides, google slides, google sheets.	3.593	1.932	.714	1.860	.081
Case analysis	-.363	.690	-.115	-.527	.606
End of lesson quizzes	.573	.976	.130	.587	.566
Standardized tests	2.830	1.574	.506	1.798	.091
End of semester exams	3.750	2.243	.438	1.672	.114
Term papers	-3.997	3.604	-.460	-1.109	.284
Final projects	-.743	2.724	-.080	-.273	.789
Portfolios Presentations	1.737	1.704	.266	1.019	.323
End of unit chapter tests	-1.491	1.478	-.268	-1.009	.328

a. Dependent Variable: AuthenticVar

Table 4.20 shows the joint coefficients of the contribution of both formative assessment and summative assessment to authentic learner performance. Wholesomely, the table shows that class discussions, informal quizzes, peer and self-assessments, practical quizzes, and interactive power point slides, end of lesson quizzes, standardized tests and portfolio presentations all contribute positively towards authentic learner assessment. In terms of changes, the findings indicate that a unit change in class discussions causes a change of .055 of change in summative assessment while a unit change in formal quizzes causes a positive change of .800 of change in authentic learner assessment. Peer assessment and practice quizzes cause a positive change of .219 and .533 to authentic learner assessment respectively. Further, a combination of interactive google documents, office 365, PowerPoint slides, google slides and end of lesson quizzes causes positive changes of .714 and .130 respectively to authentic learner assessment. Others with positive changes are standardized tests, end of semester exams and portfolio presentations to authentic learner assessment in the order of .506, .438 and .266.

## 5 Discussion

The first research question of this study focused on establishing the status of online assessments in the School of Business at USIU-Africa. The findings of the study indicate that there was no significant difference on status of online assessment as far as different departments within the school of business are concerned. However, the study established that in terms of ages, there were significance different between faculty within the age range of 31-40 years. Qualitative data collected indicated that in terms of the status of online assessments, most of the tools used during the face-to-face teaching were used through the blackboard LMS. However, it was also established that exam proctoring tools including the lockdown browser and monitor were majorly introduced to improve exam credibility. The findings are in line with Osman (2020) who confirmed that universities quickly succeeded to offer classes and assessment during the COVID-19 pandemic through established LMS and

digital tools which were familiar to the instructors. Further the study, indicated that those who did not have any form of online engagement with students struggled to acquire personnel, hardware and software required to move on to ERT&L. Similarly, a study by Beukes-Amis et al, (2022) established that many institutions were concerned with keeping academic integrity as part of the course fabric from the beginning paying close attention to several course design features.

The second research question focused on determining the educational technology tools which were currently being used in online assessment in the School of Business at USIU-Africa. The findings of this study indicated that several educational technology tools were used in online assessments. The tools included those which were being used in content delivery, those used in assessments and those used in proctoring of examinations. The findings of the study also indicate that while some digital technology tools were used to a great extent, other were used only to a small extent. Those which had mandatory requirement by the institution were used extensively while those which were optional to the discretion of the instructors had variations in the extent of use. Further the findings from the qualitative data also indicated that a multiplicity of digital tools were being used in online teaching and learning. In line with Roffe (2004) who observed that eLearning utilizes a combination of technologies in correspondence including audio, video, computer, and the internet. To further strengthen this support, Bhagat, and Spector (2017) espoused that online assessment can utilize a variety of digital tools. They concluded that assessment is a tool for supporting learning performance, learning attitude, and learning motivation.

The third research question focused on factors affecting exam credibility in the School of Business at USIU-Africa. The findings of the study established seven critical factors which affect examination credibility. The seven factors are authentic assessment and course delivery, instructor support in terms of training on assessments, LMS training and online budgetary support, student support through hardware and software accessories, student characteristics, student environment and mastery of content, marking rubrics and how feedback is provided. All the seven factors affecting exam credibility can be summed as instructor support, student support, student characteristics and testing environment. Other studies support the findings of this study. Guangul, Suhail, Khalit, and Khidhir (2020) established that there are many challenges regarding online exam credibility. The challenges range from basic knowledge in information technology, the examination environment, and the nature of assessment. This study gave a good analogy of the challenges by the fact that it manages to classify challenges according to different groups in terms of students, instructors, content, and institution. Seno-Alday, and Budde-Sung (2021) provided a different perspective by analyzing critical issues within the context of business schools. They



concluded that validity and reliability of learning outcome measurement affects employer perceptions and prospects of graduate employability.

The fourth research question of the study focused on the extent to which formative assessment contributes to authentic learner assessment in the School of Business at USIU-Africa. The findings of the study established that formative assessment positively and significantly affects authentic learner assessment. These findings resonate with other studies as follows; Weleschuk, Dyjur and Kelly (2019) study discusses principles of effective assessment as formulated by Taylor's Institute Guide on Online Assessment which focuses on evidence-based approach. In summary the principles encourage authenticity, transparency, and intentionality with the assessment practice in the field. According to the study online assessment should follow the following developmental guidelines; Start designing and preparing early, clarify the instructions, rubrics, and expectations, use variety of assessment types, focus on interactive and higher order thinking, use action focused statement when providing feedback, promote academic integrity and have a contingency plan for the assignments. Zhan (2021) Peer assessment as presented in the article is an effective educational strategy for cultivating critical thinking amongst the students. The study brought out design elements which must be considered for effective online peer assessment like peer assessment training, teacher guidance and analysis of contents of the peer feedback.

The last objective of the study focused on the extent to which summative assessment contributes to authentic learner assessment in the School of Business at USIU-Africa. The findings of the study show a dismal but positive influence of summative assessment towards authentic learner performance. The findings agree with prior research done in authentic learner assessment. On the contrary, summative assessment has the benefit of being a potentially one-time, holistic, and integrated evaluation. If a student is unable to perform at his or her peak on the chosen summative assessment format (e.g., final project or test), then student learning is not accurately assessed and students' feelings of engagement and empowerment with the learning process may be diminished (Perera-Diltz & Moe, 2014). They further observed that summative assessment in online education needs to be based on facilitating and documenting the learner's abilities to synthesize his or her own perspective and personal experiences with novel texts, media content, and other knowledge artifacts.

## **6 Conclusion**

In a nutshell, therefore the current status of online assessment is a near replica of the face-to-face assessment criteria although slowly but progressively improving to global standards with directed training. A variety of digital tools are in use with the mandatory ones recording high usage while the optional ones, dismal usage. Examination credibility is

affected by a myriad of factors, key ones focusing on the LMS platform, course development and delivery, the assessment criteria, and the general characteristics of the learners. In matters assessment, more emphasis should be placed on formative assessment than summative assessment. This is because formative assessment is real time, enabling the learners to apply concepts, solve complex managerial problems and collaborate through interactive tools to create additional knowledge to the content delivered in class. Summative assessment on the other hand should be minimized because its main focus is achievement of the course objectives with less emphasis on critical thinking.

Higher learning institutions take pride in absorption of their graduates in the work environment as soon as they graduate. Authentic learner assessment is a worthwhile venture because it offers students the necessary preparation for the world of work. Whereas it may require a shift in mind-set, it is worth it coming up with policies that encourage authentic learner assessment in our constantly changing world. Common place technologies like the LMS can be used to implement authentic assessment activities in institutions of higher learning. Most higher learning institutions already use an LMS to a certain extent. Authentic learner assessment is therefore not a pipe dream but close to reality.

## **7 Recommendations**

This study recommends a study of the whole USIU-Africa to establish authentic learner assessment for all the programs offered. This will differentiate authentic learner assessment in the different schools and undergraduate and graduate levels. Such a study can help the university improve on the quality of graduates it produces since authentic assessment has a direct impact on employability of graduates. The sample size for this study was so small and differences between and within groups was not achieved adequately. Expanding the scope of the targeted population within the university may yield more useful research results.

Further, the study recommends frequent training sessions on authentic learner assessment for all faculty members in USIU-Africa. Whereas the study has established a level of use of authentic learner assessment at the Chandaria School of Business, faculty have not been trained on the principles of authentic assessment. Training would boost the use of authentic assessment which in turn would improve the quality of teaching and learning at USIU-Africa. Majority of the educational technology tools are not used to a great extent except those where the instructors have a mandatory obligation.

The study recommends expansion of the sample size of subsequent studies to be able to establish differences between and within groups would not be achieved adequately. The study can also be expanded to include different universities and maybe a comparison

done between private and public universities either in Kenya, in East Africa, within the continent or with other global institutions.

## **8. Research Contributions And Limitations**

### **8.1 Significance and Contribution**

This study contributes to an authentic assessment of the current online teaching and learning occasioned by COVID-19 pandemic. Since online teaching has become the new normal, it is important to develop an online and authentic system of assessment.

### **8.2 Research Outputs**

This study will contribute to online teaching and learning through the following.

- Documented the status of online assessments.
- Developed training needs gaps of online assessment for faculty.
- Developed an authentic model of online assessment.
- Disaggregated key factors which contribute to exam credibility.

In terms of theory this study extends the knowledge frontiers of both social cognitive theory and user acceptance of information technology by showing the link to authentic assessment.

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## **Appendices**

### **Appendix 1 An Informed Consent**

Towards Authentic Online Assessment of Learner Performance

#### **The Purpose**

We, Juliana Namada and Bernadette Kiarie are faculty and staff respectively at the United States International University. The purpose of this study is to examine authentic online assessment of learner performance in the school of Business. The study also seeks to establish the status of online assessments in the School of Business at USIU-Africa, to find out the educational technology tools are currently being used in online assessment in the School of Business at USIU-Africa, to determine the factors affect online assessment credibility in the School of Business at USIU-Africa and to establish the extent to which formative and summative assessments contribute to authentic learner assessment in the School of Business at USIU-Africa.

#### **Procedures**

Participants in this study will be required to answer questions on status of online assessment, educational technology tools, online assessment credibility, formative and summative assessments, and authentic assessment. You will be interviewed, given one questionnaire, and asked to participate in a focus group discussion to the best of your knowledge. You may ask questions related to the study at any time. You can refuse to respond to any question without facing any consequences.

#### **Discomforts and risks**

There will be minimal risk for your involvement in this research. In addition, the questions you will be asked are not sensitive in nature and may not make you uncomfortable. However, if this happens you may refuse to answer if you so choose. The interviews take about 30 minutes, filling of the questionnaire will take approximately 15 minutes and focus group discussions taking about 60 minutes of your time.

#### **Benefits**

There will be no direct compensation or benefit for participants. Nonetheless, the information provided will be used by various stakeholders in establishing authentic assessments in the school of business.

#### **Voluntary Participation and Withdrawal**

Your involvement in the present study is voluntary. In case you change your mind, you will be permitted to opt out. No penalty will be charged to any participant who fails to answer all questions.

#### **Confidentiality**

The researcher will ensure the anonymity and confidentiality of all the participants who will be involved in this study. Any information that will be provided will be used for academic purposes. Information that will be provided during the study will be stored in a locked cabinet and a password will be set for any electronic information.

#### **Contact information**

In case of any inquiry regarding the research, please contact the research investigators listed below. In addition, if you have any questions on your rights as a research participant, you may contact MasterCard e-learning research initiative. Since you are now informed about this research and clearly understand what it will entail, I do request you to provide participation consent in order to participate in the study.

Participant signature..... Date.....

Researcher's signature..... Date.....

**Appendix 2 Questionnaire**

The purpose of this questionnaire is to collect information on online assessment of learner Performance. The tool will take 15 minutes to fill.

**SECTION A: GENERAL INFORMATION**

1. Please indicate your Gender
  1.  Male
  2.  Female
2. Kindly indicate your age category
  1.  31-40 years
  2.  40-50 years
  3.  40-50 years
  4.  50-60 years
3. Please indicate your department
  1.  Business Administration
  2.  Finance and Accounting
  3.  Tourism and Hospitality
4. What is your designation
  1.  Lecturer
  2.  Assistant professor
  3.  Associate professor
  4.  Full professor
5. Indicate the years you have worked at USIU -Africa
  1.  0-5 years
  2.  6-10 year
  3.  10-15 years
  3.  Above 15 years

B	What is the status of online assessments in the School of Business at USIU-Africa?					
	Statements about status of online assessment	1=Strongly Disagree 5= Strongly Agree				
		1	2	3	4	5
BOA1	All assessment activities are aligned to course goals					
BAO2	All assessment activities are aligned to course learning outcomes					

BAO3	All assessment activities are aligned to course content					
BAO4	I give very clear instructions in relation to online assessments					
BAO5	I provide examples of the quality work expected in my online courses					
BAO6	My course has multiple types of assessments such as projects, tests, discussions etc					
BAO7	I have assessment activities that align with authentic environment like practicum, role playing etc					
BAO8	I provide self-assessment opportunities such as practice tests, self-reflection, and journals throughout my courses					
BAO9	My course has assessments that require higher order thinking skills such as analysis and evaluation					
BAO10	I do not worry about students cheating during my online assessments					
<b>C</b>						
<b>To what extend do you use the following educational technology tools in your course assessment</b>						
	<b>Statements about educational technology tools in course assessment</b>	<b>1=strongly Disagree5=Strongly Agree</b>				
		1	2	3	4	5
CET1	Online surveys					
CET2	Online polls					
CET3	Assignments					
CET4	Tests					
CET5	Discussions					
CET6	Group work/collaborative activities					
CET7	Interactive videos					
CET8	Interactive documents					
CET9	Concept mapping					
CET10	Case study analysis					
CET11	Capstone business simulations					
CET12	Respondus lockdown browser					
CET13	Respondus Monitor					
CET14	Safe assign anti-plagiarism tool					
<b>D</b>						
<b>What factors affect online assessment credibility?</b>						
	<b>Statements about online assessment credibility</b>	<b>1=strongly Disagree5=Strongly Agree</b>				
		1	2	3	4	5
	<b>Student related factors</b>					
DAC1	Student characteristics					
DAC2	Peer pressure					
DAC3	Student preparedness					
DAC4	Understanding of course content					
DAC5	Testing environment					
DAC6	Understanding of assessment items					



DAC7	Variety of questions					
DAC8	Familiarity with assessment tools					
DAC9	Student online support during assessment					
	<b>Instructor related factors</b>					
DAC10	Level of alignment to the outcomes					
DAC11	Course design					
DAC12	Learning content					
DAC13	Course activities					
DAC14	Course interactivity					
DAC15	Content mastery by the instructor					
DAC16	Instructor presence					
DAC17	Course accessibility					
DAC18	Communication effectiveness					
DAC19	Assessment reliability					
DAC20	Frequency of assessment					
DAC21	Provision of assessment rubrics					
	<b>Additions required</b>					
DAC22	<b>Institutional related factors</b>					
DAC23	Availability of educational technology assessment tools					
DAC24	LMS accessibility					
DAC25	LMS support through training					
DAC26	Provision of online budget					
DAC27	Wi-Fi					
DAC28	Working efficient computers					
DAC29	Training on online pedagogy					
DAC30	Training on content development					
DAC31	Training on criteria of online assessment					
E	To what extent does formative assessment contribute to authentic learner assessment?					
	<b>Statements about formative assessments</b>	<b>1=strongly Disagree 5= Strongly Agree</b>				
		1	2	3	4	5
EFO1	Learning Journals					
EFO2	Class discussion					
EFO3	Concept maps					
EFO4	Informal quizzes					
EFO5	Peer and self-assessment					
EFO6	Drafts or components toward a major paper or project					
EFO7	Practice quizzes					
EFO8	Interactive videos					
EFO9	Interactive google documents, office 365, PowerPoint slides, google slides, google sheets,					
EFO10	Case analysis					
F	To what extent does summative assessment contribute to authentic learner assessment?					

	<b>Statements about Summative Assessments</b>	<b>1 = Strongly Disagree 5 = Strongly Agree</b>				
		1	2	3	4	5
FSU1	End of lesson quizzes					
FSU2	Standardized tests					
FSU3	End of semester exams					
FSU4	Term papers					
FSU5	Final projects					
FSU6	Portfolios Presentations					
FSU7	End of unit chapter tests					
G	Authentic Assessment					
	<b>Statements which measure authentic assessments</b>	<b>1 = strongly Disagree 5 = Strongly Agree</b>				
		1	2	3	4	5
GAA1	The assessments <b>challenging</b> by connecting real world ideas with concepts and theories.					
GAA2	Assessments measure the <b>learning outcomes</b>					
GAA3	Assessments measure the intended <b>transferred knowledge and skills.</b>					
GAA4	Assessments focus on <b>metacognition</b> by means of critical reflection, self-assessment, or evaluation.					
GAA5	Students provide <b>accurate information</b>					
GAA6	Student output in the assessment is their own <b>original work</b>					
GAA7	Assessment activity requires <b>discussion and feedback</b>					
GAA8	Assessment activity requires that students <b>collaborate and create new knowledge.</b>					

*Thank you for your cooperation.*

### **Appendix 3 Interview/Focus Group Discussion Guide**

The purpose of this interview guide is to collect information on online assessment of learner Performance. The tool will take 30 minutes for interviews and 60 minutes for focus group discussions.

1. What is the status of online assessments in the School of Business at USIU-Africa?
2. What educational technology tools are currently being used in online assessment in the School of Business at USIU-Africa?
3. What factors affect exam credibility in the School of Business at USIU-Africa?
4. To what extent does formative assessment contribute to authentic learner assessment in the School of Business at USIU-Africa?
5. To what extent does summative assessment contribute to authentic learner assessment in the School of Business at USIU-Africa?

#### Appendix 4: Debrief Form

### UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA TOWARDS AUTHENTIC ONLINE ASSESSMENT OF LEARNER PERFORMANCE

Thank you for your participation in this research study. For this study, we did not withhold any information from you or provide you with incorrect information about any aspects of the study or your participation. Now that your participation is completed, we confirm and describe that there is no withheld or incorrect information to you and hence we provide you with the opportunity to make a decision on whether you would like to have your data included in this study.

#### Right to withdraw data

You may choose to withdraw the data you provided prior to debriefing, without penalty or loss of benefits to which you are otherwise entitled. Please initial below if you do, or do not, give permission to have your data included in the study:

I give permission for the data collected from or about me to be included in the study.

.....

I do not give permission for the data collected from or about me to be included in the study.

.....

#### If you have questions

The main Investigators conducting this study are **Juliana Namada and Bernadette Kiarie**, employees at the United States International University-Africa. Please ask any questions you may have. If you have questions later, you may contact **Juliana Namada** at [jnamada@usiu.ac.ke](mailto:jnamada@usiu.ac.ke) or Bernadette Kiarie at [bkiarie@usiu.ac.ke](mailto:bkiarie@usiu.ac.ke). If you have any questions or concerns regarding your rights as a research participant in this study, you may contact the MasterCard foundation e-learning research.

Your signature below indicates that you have been debriefed and have had all of your questions answered.

\_\_\_\_\_  
**Name of Participant**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Name of Researcher**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

Please sign both copies, keep one and return one to the researcher.