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ACCEPTABILITY AND CHALLENGES OF ONLINE ASSESSMENT AT ZCAS UNIVERSITY DURING THE COVID-19 ERA

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ABSTRACT

The aim of this study was to evaluate the acceptability of online examinations to students at ZCAS University. The emergence of coronavirus disease 2019 (COVID-19) forced the education system world-wide to adopt online education immediately. An online survey was conducted amongst the students at ZCAS University in Lusaka, Zambia after the June 2020 online examination session. A random sample of 218 students participated in the online survey. Firstly, a descriptive statistical analysis of the responses was conducted in which frequencies were tabulated to give details of age, sex, programme level and mode of study of the respondents. Thereafter, cross tabulations which produced chi-square value testing for significance were run. The main findings of the study were that mode of study and programme level had significant influence on acceptability of online assessments. Students who were on the distance study mode and those that were doing postgraduate programmes had better experience of online assessment than the others. Gender and age had no significant influence on acceptability of online assessment. With respect to the challenges associated with online assessment, the study found that candidates' typing speed, electricity load shedding, internet speed and the cost of data bundles had adverse impact on acceptability of online assessment. The respondents also indicated that unavailability of the platform and internet access rarely affected their experience of online assessment, while bad electronic gadget was never a factor. The majority of the respondents were however satisfied with their experience of online assessment.

KEYWORDS: *COVID-19, Higher education, Lockdown, Online assessment, ZCAS University*.

1. INTRODUCTION

The aim of this study was to evaluate the acceptability of examinations delivered through online platforms to students at ZCAS University. Accordingly, we conducted an online survey of students at ZCAS University after the June 2020 examinations.

In order to enhance integrity of assessments in online education, universities need to understand challenges students face and tailor their offerings accordingly. Therefore, the overarching question we set ourselves to guide this study was: *To what extent do gender, mode of study, age, and level of study affect acceptability of online assessment in higher education?* For example, do female students respond the same way to online assessment as their male counterparts? How about students studying on different modes of study such as full time, part time and distance education? Is online assessment equally acceptable to students from different age groups? Similarly, to what extent is online assessment attractive to undergraduate students compared to their postgraduate counterparts?

On 18th March 2020 the Government of the Republic of Zambia announced the closure of all schools, colleges and universities in the country to mitigate against the spread of the coronavirus disease 2019 (COVID-19). Higher learning institutions were encouraged to switch teaching and learning to online platforms. Accordingly, ZCAS University switched all full time, part time and distance education teaching and learning to online platforms.

At the end of the semester i.e. in early June 2020, the university had to decide how the final examinations would be conducted since the country was still on lockdown and in-person contact with students was still suspended. Following deliberations of the University Senate, it was decided to conduct examinations via the virtual learning environment used by the university i.e. MOODLE platform. Accordingly, question papers were uploaded on the platform for students to download. Students were then required to answer the questions offline and upload their answer scripts on the platform within specified time limits.

In order to mitigate against poor internet speed, slow typing speed, electricity load shedding and other factors that might have affected students' ability to deal with this novel method of examination, students were given an additional 30 minutes to the hitherto three hours examination duration in which to answer the questions. Additionally, the number of questions was reduced by one. Since the examination was effectively a non-proctored open-book exam taken in real time, examiners were required to set problem-based questions so that students could not easily find answers by searching their reading materials and internet sources.

In order to assess students' experiences with online examinations at ZCAS University during the COVID-19 pandemic, we conducted an online survey after the June 2020 examination session. Our findings indicate that the mode of study and programme level had significant influence on acceptability of online assessment, while gender and age did not have such effect.

With respect to mode of study, only 33.8% of full-time students were willing to take all or most of their future assessments online, while a larger proportion, i.e. 39%, indicated that they would not prefer to take any future assessments via online platforms. On the other hand, 58.1% of part-time and 54.5% of ODeL students indicated that they would prefer to take all or most of their

future assessments online. The Pearson chi-square value of 0.021 which is less than 0.05 confirms that there is a significant relationship between mode of study and desire to take future assessments via online platforms.

With regards to level of study, majority of the undergraduate students (53%) did not have enough time to attempt the final examinations. On the other hand, 59% of the postgraduate students had enough time to attempt the examinations at least most of the time. This indicates that postgraduate students had better experiences with the online assessment compared to their undergraduate counterparts. The Pearson chi-square value of 0.006, which is less than 0.05, buttresses this conclusion.

With respect to challenges faced by students, our study found that most of the respondents always had an issue with typing speed, electricity load shedding, internet speed and cost of data bundles during their online assessments. Unavailability of the platform/link and access to internet rarely affected the students during online assessments; while the state of their electronic gadgets such as laptops was never an issue.

Lastly, the respondents were asked to rate their overall satisfaction/dissatisfaction with online assessment. The majority of students, i.e. 60%, were either satisfied or highly satisfied with the online assessments. Most of the respondents also indicated that they were willing to take some (25%), most (15%) or all (33) their assessments online in future. These findings suggest that ZCAS University students were generally satisfied with online assessments.

We organise the remainder of the paper as follows. Section 2 provides a brief review of the prior literature, while a description of the methodology and dataset is provided in Section 3. We discuss our empirical results in Section 4, and offer concluding remarks in Section 5.

2. LITERATURE SURVEY

Abdullah and Ward (2016) designed a General Extended Technology Acceptance Model for E-Learning (GETAMEL) which suggests external factors that affect students' adoption of e-learning. We believe that these factors can be used to assess effectiveness of examinations that are delivered through online platforms. The five factors they identified as having a significant effect on students' perceived ease of use (PEOU) and perceived usefulness (PU) of e-learning are Self-Efficacy, Subjective Norm, Perceived Enjoyment, Computer Anxiety and Experience. PEOU and PU of online assessments affect students' attitude towards online examinations, and subsequently their intention to participate and actual participation in online examinations. We have used the GETAMEL model in our review of the literature to identify challenges of adopting online examinations in higher education.

2.1 CHALLENGES IN ONLINE ASSESSMENTS

Kearns (2012) categorised online assessments into five groups, namely written assignments, online discussions, fieldwork, quizzes and exams, and presentations. In the absence of in-person assessment during the COVID-19 lockdown, online assessments were the only option available for universities that switched to online learning mode. However, online assessments have unique challenges in addition to those found in in-person assessments. Due to distance between the student and the university, and technology deficiencies, e-proctoring and in-person supervision of students during the assessment may not be feasible. Accordingly, students' commitment to

submit their work wanes (Kearns, 2012; Guangul *et al.*, 2020). Other challenges faced in administering assessments online include slow internet speed, lack of electronic gadgets, poor time management and delayed feedback from tutors.

The issue of academic integrity or cheating by students in online assessments is particularly thorny. Although some researchers have raised concerns about the possibility of students cheating in online assessments (Kearns, 2012; Guangul *et al*., 2020), the majority of studies have concluded to the contrary. For example, in her review of the academic integrity literature, Eaton (2020) found that there was actually more academic misconduct in face-to-face environments compared to online assessments. In the case of postgraduate students, Ladyshewsky (2015) concluded that there was no statistically significant difference in the mean test scores when multiple choice questions for postgraduate students were administered in person compared to unsupervised online arrangements.

However, in the COVID-19 era, the immediate switch to emergency remote learning has different implications for academic integrity compared to ordinary online learning. For example, the stress levels students experience as a result of a sudden switch to emergency remote learning are much higher (Eaton, 2020; White, 2020b). At the same time, commercial contract cheating and academic file-sharing companies have increased in number and become more aggressive in their marketing practices (White, 2020a). Consequently, students face greater temptation to engage in academic misconduct during the COVID-19 era compared to ordinary online learning circumstances (Eaton, 2020).

2.2 SATISFACTION WITH ONLINE ASSESSMENT

In a study in India involving 431 students, Bisht, Jasola and Bisht (2020) discovered that online examinations were more acceptable than traditional face-to-face ones. This was particularly the case with female students compared to their male counterparts. Another study carried out by Elzainy, El Sadik and Al Abdulmonem (2020) noted that students' performance in online assessments was better than in previous face-to-face assessments for the same group of students, particularly in the case of female students. This study found that majority of the students and staff, i.e. 58.82%, were satisfied with online assessment.

Other researchers have affirmed this position by demonstrating that students' performance in online examinations was better than in in-person assessments (Gonzalez *et al.*, 2020; Prigoff, Hunter and Nowygrod, 2020; Abdollahi *et al.*, 2021; García-Peñalvo *et al.*, 2021). The enhanced student performance during the COVID-19 lockdown has been attributed to students having more study time and also due to lack of security of the examinations.

However, some researchers concluded to the contrary. For example, Slamet, Amrullah and Sutiah (2021) found that online dissertation supervision was not effective, while online assessments were less effective compared to in-person assessments. Similarly, for examinations that require student-patient contact, such as in dentistry, online assessment is not feasible (Wu *et al.*, 2020).

3. DATA AND METHODOLOGY

We collected data for this study from a Google Docs online questionnaire that was availed to all students at ZCAS University through the virtual learning environment (VLE). A message was

sent to all students through the VLE urging them to provide feedback about their experiences with online examinations since the COVID-19 induced lockdown that prevented in-person examinations. 272 students out of a population of 2,015 who sat for the June 2020 final examinations completed the online questionnaire.

The main research question we set out to answer in this study was: *To what extent do gender, mode of study, age, and level of study affect acceptability of online assessment in higher education?* To answer this question, we used SPSS's cross tabulations, chi-square tests and analysis of variance (ANOVA) to process and analyse the data.

4. EMPIRICAL RESULTS

We imported the questionnaire responses from Google Docs into an Excel spreadsheet for data cleaning. After data cleaning, we remained with 218 usable questionnaire responses.

4.1 DESCRIPTIVE STATISTICS

In order to determine internal consistency of the survey questionnaire, we generated the Cronbach's alpha coefficient after importing the data into SPSS. The Cronbach's alpha coefficient obtained for the data was 0.73 as can be seen from Table 1 below. The coefficient is higher than the recommended minimum of 0.7, suggesting that our data collection instrument was reliable.

Table 1 Cronbach results from SPSS

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.732	.737	8

We present descriptive statistics in Tables 2 to 3 and Figures 1 to 2 below. As can be seen from Table 2 below, majority of the respondents were male (57.8%), while female student comprised 42.2%. There were slightly more male than female students in the sample compared to the student population which has a proportion of about 50:50 (Edurole, 2021).

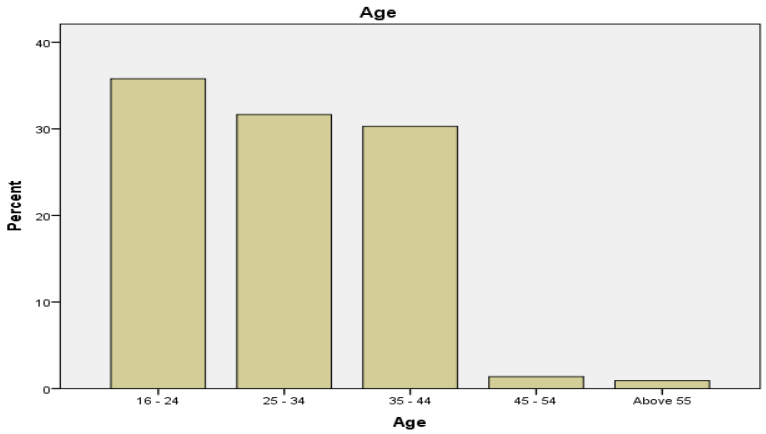
Table 2 Gender of Respondents

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	92	42.2	42.2	42.2
	Male	126	57.8	57.8	100.0
	Total	218	100.0	100.0	

In terms of age, Figure 1 below shows that most of the respondents were in the lower age groups of between 16 to 44 years. This reflects the country's population distribution by age as 65.7% are aged 24 or younger, while only 5.2% are over 55 years (IndexMundi, 2021).

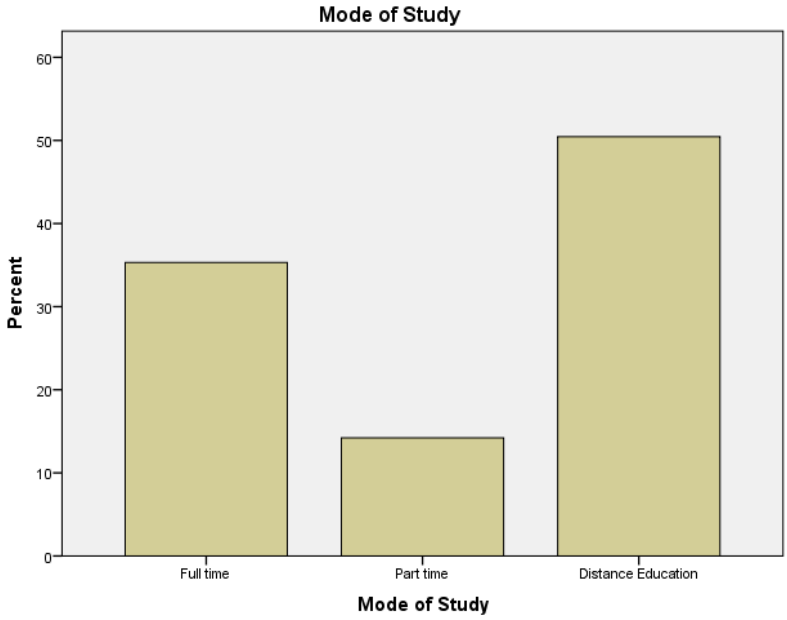
Figure 1 Age of Respondents



With regard to mode of study, the University offers its learning programmes on three modes. Some students study on a full-time basis, which means they engage with their lecturers during normal working hours from 08:00 hrs to 17:00 hrs. Part time or evening students have classes from 17:30 hrs to 20:00 hrs. The third mode of study is referred to as open, distance and e-learning (ODeL). Most of the teaching and learning on ODeL takes place through the VLE, while in-person classes were conducted for two weeks within the semester.

As shown in Figure 2 below, majority of the respondents were ODeL students (50%), followed by full time students (36%) and part time students (14%).

Figure 2 Mode of Study of Respondents



In terms of the level of study, the University offers undergraduate and postgraduate learning programmes. As shown in Table 3 below, the majority of the respondents were undergraduate students (82%), while postgraduate students comprised (18%). This reflects the overall student population composition in the University.

Table 3 Programme level

Programme Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	179	82.1	82.1	82.1
	Postgraduate	39	17.9	17.9	100.0
	Total	218	100.0	100.0	

4.2 GENDER AND ONLINE ASSESSMENT

To establish whether there was any significant relationship between gender and acceptability of online assessment, we ran a cross tabulation between gender and the perceived effect on grades/results as a result of the switch from face-to-face to online assessment. The results are given in Table 4 below.

Table 4 cross tabulation between gender and effect on results/grades

Gender * Change to online exam negatively affect grades/results Crosstabulation

			Change to online exam negatively affect grades/results					
			Significantly	Highly	Moderately	Minimally	None	Total
Gender	Female	Count	12	14	23	22	21	92
		Expected Count	12.7	21.1	23.6	18.1	16.5	92.0
		% within Gender	13.0%	15.2%	25.0%	23.9%	22.8%	100.0%
	Male	Count	18	36	33	21	18	126
		Expected Count	17.3	28.9	32.4	24.9	22.5	126.0
		% within Gender	14.3%	28.6%	26.2%	16.7%	14.3%	100.0%
Total		Count	30	50	56	43	39	218
		Expected Count	30.0	50.0	56.0	43.0	39.0	218.0
		% within Gender	13.8%	22.9%	25.7%	19.7%	17.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.807[a]	4	.099
Likelihood Ratio	7.953	4	.093
Linear-by-Linear Association	5.052	1	.025
N of Valid Cases	218		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.66.

We noted similarities in the perception of both male and female students as regards the effect of the switch in the assesment model on grades. Although a larger proportion of female students were more positive about the switch to online assessment, majority of both male (57.1%) and female (71.8%) students thought that the switch to online assessment would not affect their

grades highly or significantly. We could not find any significant relationship between gender and the perceived effect on grades/results as a result of switching from face-to-face to online assessment. This is also confirmed by the Pearson chi-square value of 0.099 which is above 0.05.

To butress the conclusion above, we ran another cross tabulation between gender and the proportion of future online assessments the respondents were willing to take. We present the results of this cross tabulation in Table 5 below.

Table 5 cross tabulation between gender and future online assesment

Gender * Proportion of future online exams Crosstabulation

			Proportion of future online exams				Total
			All	Most	Some	None	
Gender	Female	Count	28	10	21	33	92
		Expected Count	30.4	13.5	23.2	24.9	92.0
		% within Gender	30.4%	10.9%	22.8%	35.9%	100.0%
	Male	Count	44	22	34	26	126
		Expected Count	41.6	18.5	31.8	34.1	126.0
		% within Gender	34.9%	17.5%	27.0%	20.6%	100.0%
Total		Count	72	32	55	59	218
		Expected Count	72.0	32.0	55.0	59.0	218.0
		% within Gender	33.0%	14.7%	25.2%	27.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.822[a]	3	.078
Likelihood Ratio	6.807	3	.078
Linear-by-Linear Association	3.461	1	.063
N of Valid Cases	218		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.50.

As can be seen, there is no significant relationship between gender and the proportion of future online assessments the respondents were willing to take. This is supported by the Pearson chi-value of 0.078 which is above 0.05. We can therefore, conclude that there is no significant relationship between gender and acceptability of online assessment at ZCAS University.

Our findings are contrary to what some researchers have found elsewhere. Bisht, Jasola and Bisht (2020) and Elzainy, El Sadik and Al Abdulmonem (2020), for example, concluded that online examinations were more acceptable than traditional face-to-face ones particularly for female students compared to their male counterparts.

4.3 MODE OF STUDY AND ONLINE ASSESSMENT

We were also interested in establishing whether candidates studying on different modes had any peculiar experiences with online assessment. Accordingly, we ran a cross tabulation between mode of study and desire to undertake online assessments in future. The results are presented in Table 6 below.

Table 6 Mode of study & proportion of future online assessments cross tabulation

Mode of Study * Proportion of future online exams Crosstabulation

			Proportion of future online exams				
			All	Most	Some	None	Total
Mode of Study	Full time	Count	20	6	21	30	77
		Expected Count	25.4	11.3	19.4	20.8	77.0
		% within Mode of Study	26.0%	7.8%	27.3%	39.0%	100.0%
	Part time	Count	14	4	9	4	31
		Expected Count	10.2	4.6	7.8	8.4	31.0
		% within Mode of Study	45.2%	12.9%	29.0%	12.9%	100.0%
	Distance Education	Count	38	22	25	25	110
		Expected Count	36.3	16.1	27.8	29.8	110.0
		% within Mode of Study	34.5%	20.0%	22.7%	22.7%	100.0%
Total		Count	72	32	55	59	218
		Expected Count	72.0	32.0	55.0	59.0	218.0
		% within Mode of Study	33.0%	14.7%	25.2%	27.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.961[a]	6	.021
Likelihood Ratio	15.324	6	.018
Linear-by-Linear Association	5.820	1	.016
N of Valid Cases	218		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 4.55.

Only 33.8% of full-time students were willing to take all or most of their future assessments online, while a larger proportion, i.e. 39%, indicated that they would not prefer to take any future assessments via online platforms. On the other hand, 58.1% of part-time and 54.5% of ODeL students indicated that they would prefer to take all or most of their future assessments online. Part-time and ODeL students who did not prefer to take any future assessments online were a significant minority at 12.9% and 22.7% respectively. The Pearson chi-square value of 0.021 which is less than 0.05 confirms that there is a significant relationship between mode of study and desire to take future assessments via online platforms.

To buttress the findings above, we carried out an analysis of variance (ANOVA) to ascertain whether there was any significant difference in the means of fulltime, part-time, and ODeL

students as regards adequacy of time to submit their online assessments. We present the ANOVA results in Table 7 below.

The ANOVA significance value of 0.007, which is less than 0.05, indicates that there is a significant relationship between mode of study and experience with online assessments. Clearly, the mean of the respondents from the fulltime students (3.23) was significantly different from that of the part-time students (2.45) and their ODeL counterparts (2.63).

The reason part-time and ODeL students seem to prefer online assessments could be related to travelling costs and convenience. Part-time and ODeL students are normally in full time employment, so getting permission/leave to travel for face-to-face examinations could be a challenge. ODeL students are particularly adversely affected as most of them live in towns and cities far away from the University. We can also attribute our study's findings to the fact that part-time and ODeL students, most of whom are in gainful employment, have more resources and greater access to the internet than full-time students, and can therefore, easily participate in assessments conducted via online platforms.

Table 7 ANOVA table for Mode of study and adequacy of time in submitting answer scripts

Descriptives

Adquate time for submitting answer scripts

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Full time	77	3.23	1.413	.161	2.91	3.55	1	5
Part time	31	2.45	1.434	.258	1.93	2.98	1	5
Distance Education	110	2.64	1.463	.140	2.36	2.91	1	5
Total	218	2.82	1.469	.099	2.63	3.02	1	5

ANOVA

Adquate time for submitting answer scripts

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21.099	2	10.549	5.075	.007
Within Groups	446.924	215	2.079		
Total	468.023	217			

4.4 AGE AND ONLINE ASSESSMENT

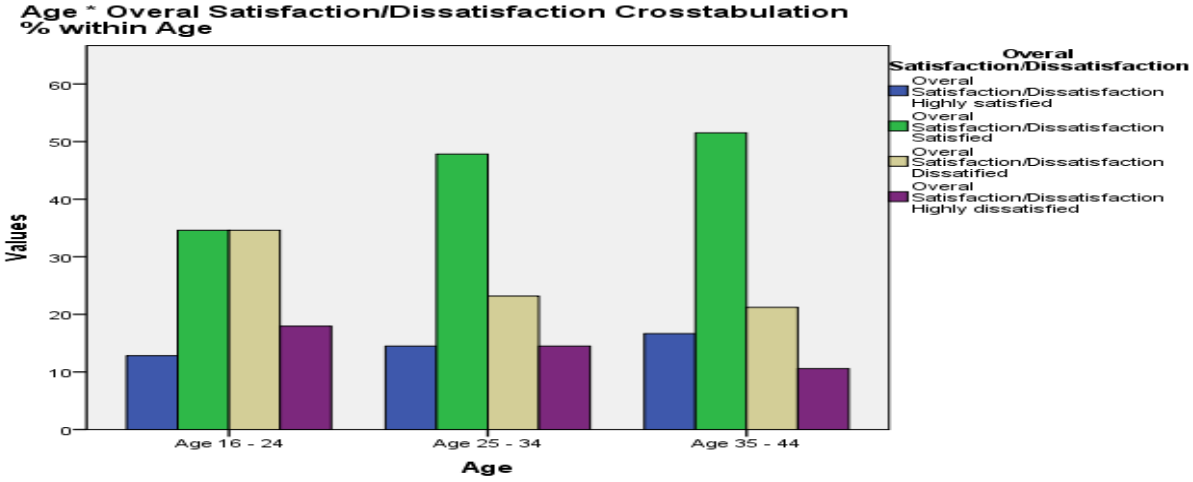
The other issue we addressed in this study was to determine whether any significant relationship exists between age of the respondents and their experience with online assessments. Firstly, we ran a cross tabulation between age and overall satisfaction with online assessments. The results of the cross tabulation are presented in Figure 3 below.

We note from the cross tabulation that majority of the respondents across all the age groups were generally satisfied with their experience with online assessment. This is confirmed by the Pearson chi square value of 0.302 which is greater than 0.05, indicating that there is no significant relationship between age and satisfaction/dissatisfaction with online assessments.

Secondly, we ran another cross tabulation to establish whether there was any significant relationship between age and perceived effect of the switch to online assessments on results/grades. We present the results Table 8 below.

Again, the response patterns were generally similar across the age groups. The Pearson chi square value of 0.501, which is way above 0.05, indicates that there is no significant relationship between age and perceived effect of the switch to online assessments on results/grades.

Figure 3 Cross tabulation between age and level of satisfaction/dissatisfaction with online assessment.



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.204[a]	6	.302
Likelihood Ratio	7.235	6	.300
Linear-by-Linear Association	4.471	1	.034
N of Valid Cases	213		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.61.

We think that age is not a factor in acceptability of online assessment because most of the University's students are aged 44 or below. People in this age category have lived with modern information and communication technologies (ICTs) for most or all of their lives. They are therefore, likely to be tech-savvy. Additionally, the usage of ICTs in the country is quite high with mobile subscription and internet usage penetration rates of 106.81% and close to 60% respectively (Zambia Information and Communications Technology Authority, 2020).

Table 8 Cross taulation between age group and effect on result/grades.

Age * Change to online exam negatively affect grades/results Crosstabulation

			Change to online exam negatively affect grades/results					Total
			Significantly	Highly	Moderately	Minimally	None	
Age	16 - 24	Count	8	13	20	20	17	78
		Expected Count	10.6	17.6	20.5	15.4	13.9	78.0
		% within Age	10.3%	16.7%	25.6%	25.6%	21.8%	100.0%
	25 - 34	Count	9	18	18	13	11	69
		Expected Count	9.4	15.5	18.1	13.6	12.3	69.0
		% within Age	13.0%	26.1%	26.1%	18.8%	15.9%	100.0%
	35 - 44	Count	12	17	18	9	10	66
		Expected Count	9.0	14.9	17.4	13.0	11.8	66.0
		% within Age	18.2%	25.8%	27.3%	13.6%	15.2%	100.0%
Total		Count	29	48	56	42	38	213
		Expected Count	29.0	48.0	56.0	42.0	38.0	213.0
		% within Age	13.6%	22.5%	26.3%	19.7%	17.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.337[a]	8	.501
Likelihood Ratio	7.393	8	.495
Linear-by-Linear Association	5.462	1	.019
N of Valid Cases	213		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.99.

4.5 PROGRAMME LEVEL AND ONLINE ASSESSMENT

We further analysed whether the level of study, i.e. postgraduate or undergraduate, had any significant influence on acceptability of online assessments. Accordingly, we firstly ran a cross tabulation between programme level and sufficient writing time during the online assessment. The findings are shown in Table 9 below.

Table 9 Cross tabulation between programme level enough time allocation

Programme Level * Enough time allocation for the exam Crosstabulation

			Enough time allocation for the exam					Total
			Always	Most of the time	Often	Rarely	Never	
Programme Level	Undergraduate	Count	36	25	23	35	60	179
		Expected Count	42.7	26.3	24.6	33.7	51.7	179.0
		% within Programme Level	20.1%	14.0%	12.8%	19.6%	33.5%	100.0%
		% of Total	16.5%	11.5%	10.6%	16.1%	27.5%	82.1%
	Postgraduate	Count	16	7	7	6	3	39
		Expected Count	9.3	5.7	5.4	7.3	11.3	39.0
		% within Programme Level	41.0%	17.9%	17.9%	15.4%	7.7%	100.0%
		% of Total	7.3%	3.2%	3.2%	2.8%	1.4%	17.9%
Total		Count	52	32	30	41	63	218
		Expected Count	52.0	32.0	30.0	41.0	63.0	218.0
		% within Programme Level	23.9%	14.7%	13.8%	18.8%	28.9%	100.0%
		% of Total	23.9%	14.7%	13.8%	18.8%	28.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.510[a]	4	.006
Likelihood Ratio	16.128	4	.003
Linear-by-Linear Association	13.579	1	.000
N of Valid Cases	218		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.37.

We note that majority of the undergraduate students (53%) did not have enough time to attempt the final examinations. On the other hand, 59% of the postgraduate students had enough time to attempt the examinations at least most of the time. This indicates that postgraduate students had better experiences with the online assessment compared to their undergraduate counterparts. The Pearson chi-square value of 0.006, which is less than 0.05, buttresses this conclusion.

Secondly, we carried out an ANOVA to ascertain whether there was any significant difference in the means of undergraduate and postgraduate students with regard to their overall satisfaction/dissatisfaction with online assessment. The results are shown in Table 10 below.

Table 10 ANOVA table of Programme level and Overall satisfaction

Descriptives

Overal Satisfaction/Dissatisfaction

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Undergraduate	179	2.48	.938	.070	2.34	2.62	1	4
Postgraduate	39	2.15	.745	.119	1.91	2.40	1	4
Total	218	2.42	.914	.062	2.30	2.54	1	4

ANOVA

Overal Satisfaction/Dissatisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.416	1	3.416	4.151	.043
Within Groups	177.758	216	.823		
Total	181.174	217			

The mean for the undergraduate students was 2.48, which was different from that for postgraduate students at 2.15. Given that the significance value of 0.043 from the ANOVA output was less than 0.05, we conclude that there is a significant difference in the group means.

This implies that the overall level of satisfaction/dissatisfaction with online assessment was significantly different between postgraduate and undergraduate students.

We attribute our study's findings to the fact that postgraduate students, most of whom are in gainful employment or running their own businesses, have more resources and greater access to the internet than undergraduate students; and can therefore, easily adopt online education, including online assessments. Many studies on acceptability of online education have concluded that postgraduate students are more amenable to online education than undergraduate students (Gautam and Gautam, 2021; Kayombo and Mwiinga, 2021; Chung, Subramaniam and Dass, 2020b).

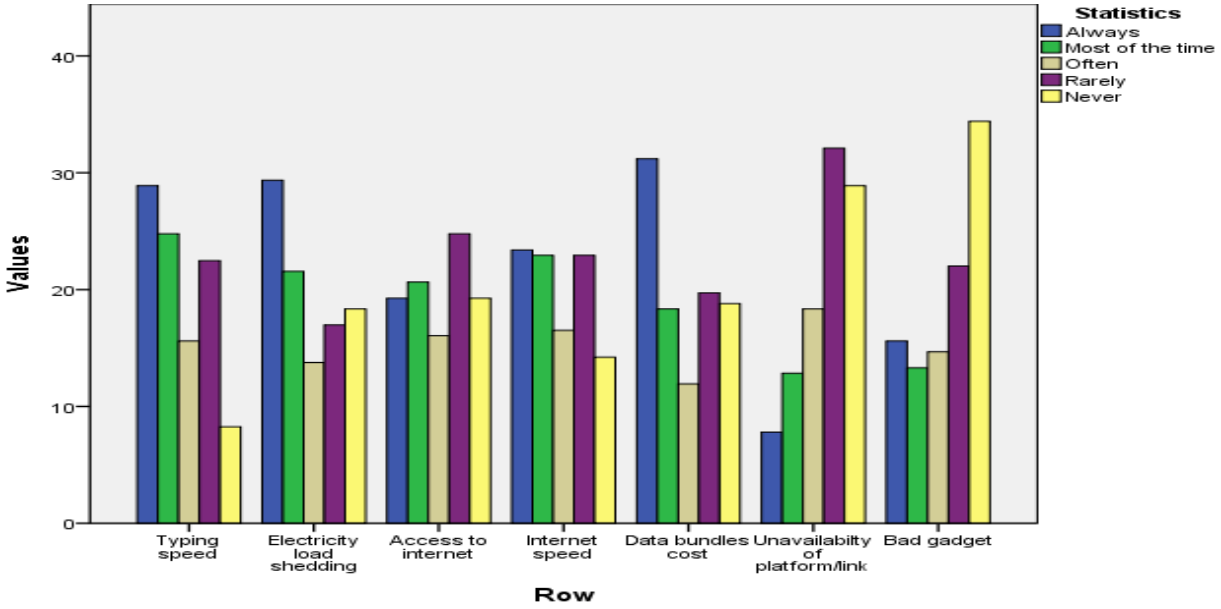
4.6 FACTORS THAT INFLUENCE EFFECTIVENESS OF ONLINE ASSESSMENT

In the study, we also set out to establish the factors that impacted online assessments. Our results are presented in Figure 4 below.

We note that majority of the respondents' online examinations were always or most of the times adversely affected by typing speed, electricity load shedding, internet speed and cost of data bundles. Our findings in this regard are not surprising because these factors have been found to adversely affect online education in general (Agormedah *et al.*, 2020; Kajiita, Nomngcoyiya and Kang'ethe, 2020; Motala and Menon, 2020; Kayombo and Mwiinga, 2021).

Figure 4 also shows that access to the internet and unavailability of platform/link rarely affected students' online assessment, while bad electronic gadgets never affected their online assessments.

Figure 4 Factors affecting online Assessments



4.7 OVERALL SATISFACTION WITH ONLINE ASSESSMENT

Lastly, the respondents were asked to rate their overall satisfaction/dissatisfaction with online assessment. The majority of students, i.e. 60%, were either satisfied or highly satisfied with the

online assessment as depicted in Figure 5 below. 40% were either highly dissatisfied or dissatisfied.

As shown in Figure 6 below, when the respondents were asked about the proportion of assessments they were willing to take online in future, only 27% indicated that they were not willing to take any of their future assessments via online platforms. The rest were willing to take all (33%), most (15%) or some (25%) of their future assessments online.

The findings in Figures 5 and 6 suggest that ZCAS University students were generally satisfied with online assessments. These findings are in accordance with the general view in the literature as evidenced in many studies (Bisht, Jasola and Bisht, 2020; Elzainy, El Sadik and Al Abdulmonem, 2020; Gonzalez *et al.*, 2020; Prigoff, Hunter and Nowygrod, 2020; Abdollahi *et al.*, 2021; García-Peñalvo *et al.*, 2021). The actual students' performance in the June 2020 examination session, which was similar to previous face-to-face sessions, seems to confirm that students' experiences with online assessments were positive.

Figure 5 overall satisfaction/ Dissatisfaction of Online assessment

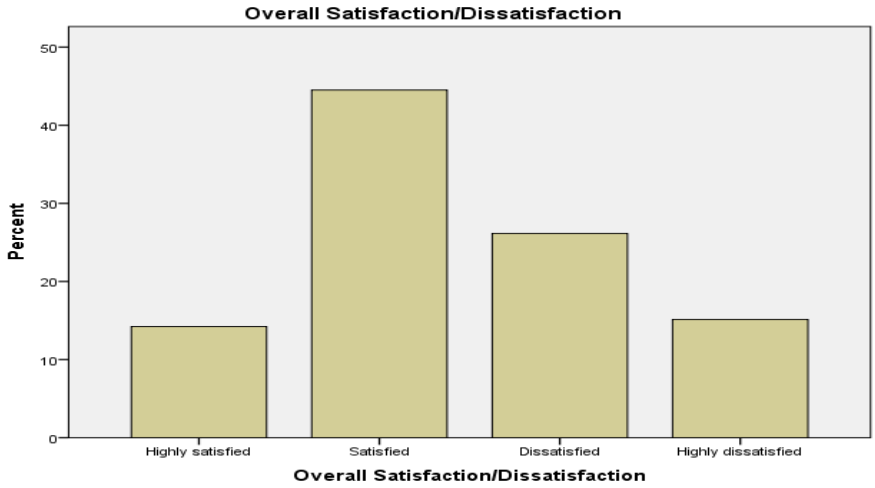
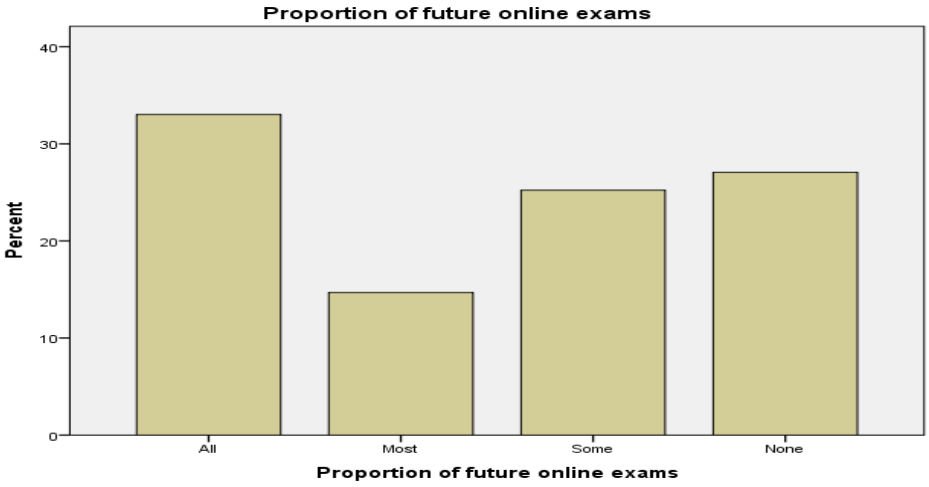


Figure 6 Proportion of future online Assessment



5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

This study endeavoured to explore the acceptability and challenges of online assessment at ZCAS University during the COVID-19 pandemic. The study assessed whether gender, age, programme level and mode of study had a significant impact on acceptability of online assessment. From the 218 respondents who participated in the online questionnaire, we were able to note that mode of study and programme level had a significance influence on acceptability of online assessments. Part-time, ODeL and postgraduate students were more inclined to online assessment than their full-time and undergraduate counterparts. However, gender and age did not seem to influence acceptability of online assessments.

The study went further to establish some of the common factors that influenced acceptability of online assessments. Typing speed, electricity load shedding, internet speed and cost of data bundles were some of the common factors that affected adoption of online assessments. However, even with the above impediments, the respondents were satisfied with online assessments overall.

5.2 RECOMMENDATIONS

Based on the findings and conclusions above, the following recommendations can be made with regards to online assessments:

i. ZCAS University should consider introducing a dual assessment system whereby students are free to choose whether to take the examination in-person or online. Many full-time students who were not satisfied with the online assessment, for example, could choose in-person examinations, while part-time and ODeL students might opt for the online option. The system could be piloted during the mid-semester examinations in the second semester of 2021.

ii. Although the University has entered into an agreement with one of the local internet service providers to zero-rate student access to the VLE, student uptake of this facility remains unknown. It is therefore, likely that many students are not benefiting from the reduced data cost that results from zero-rating access to the VLE. The University should carry out more sensitisation of the zero-rating facility to encourage student uptake.

iii. Since typing speed adversely affected student experience with online assessment, the University should take steps to address this issue. For example, multiple choice and short answer questions that do not require a lot of typing could be introduced in future online assessments.

REFERENCES

Abdollahi, A. *et al.* (2021) ‘Online Assessment for Pathology Residents during the COVID-19 Pandemic: Report of an Experience’, *Iranian Journal of Pathology*, 16(1), pp. 75–78. doi: 10.30699/ijp.2020.129558.2425.

Abdullah, F. and Ward, R. (2016) 'Developing a GETAMEL by analysing commonly used external factors.pdf', *Computers in Human Behavior*, 56, pp. 238–256. doi: 10.1016/j.chb.2015.11.036.

Agormedah, E. K. *et al.* (2020) 'Online Learning in Higher Education during COVID-19 Pandemic: A case of Ghana', *Journal of Educational Technology and Online Learning*. doi: 10.31681/jetol.726441.

Bisht, R. K., Jasola, S. and Bisht, I. P. (2020) 'Acceptability and challenges of online higher education in the era of COVID-19: a study of students' perspective', *Asian Education and Development Studies*. doi: 10.1108/AEDS-05-2020-0119.

Chung, E., Subramaniam, G. and Dass, C. L. (2020b) 'Online Learning Readiness Among University Students in Malaysia Amidst Covid-19', *Asian Journal of University Education*, 16(2), p. 45. doi: 10.24191/ajue.v16i2.10294.

Eaton, S. E. (2020) 'Academic Integrity During COVID-19: Reflections From the University of Calgary', *International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management (CCEAM))*, 48(1), pp. 80–85.

Edurole (2021) *EduRole Student Information System, School Report*. Available at: https://sis.zcas.edu.zm/report/school?period=2020&mode=Both&term=2 (Accessed: 13 February 2021).

Elzainy, A., El Sadik, A. and Al Abdulmonem, W. (2020) 'Experience of e-learning and online assessment during the COVID-19 pandemic at the College of Medicine, Qassim University', *Journal of Taibah University Medical Sciences*, 15(6), pp. 456–462. doi: 10.1016/j.jtumed.2020.09.005.

García-Peñalvo, F. J. *et al.* (2021) 'Planning, Communication and Active Methodologies: Online Assessment of the Software Engineering Subject during the COVID-19 Crisis', *RIED. Revista Iberoamericana de Educación a Distancia*, 24(2), p. 19. doi: http://doi.org/10.5944/ried.24.2.27689.

Gautam, D. K. and Gautam, P. K. (2021) 'Transition to online higher education during COVID-19 pandemic: turmoil and way forward to developing country of South Asia-Nepal', *Journal of Research in Innovative Teaching & Learning*, ahead-of-print(ahead-of-print). doi: 10.1108/JRIT-10-2020-0051.

Gonzalez, T. *et al.* (2020) 'Influence of COVID-19 confinement on students' performance in higher education', *PLoS ONE*, 15(10). Available at: https://doi.org/10.1371/journal.pone.0239490.

Guangul, F. M. *et al.* (2020) 'Challenges of remote assessment in higher education in the context of COVID-19 a case study of Middle East College.pdf', *Educational Assessment, Evaluation and Accountability*, 32, pp. 519–535.

IndexMundi (2021) *Zambia Age structure - Demographics, Zambia Age structure*. Available at: https://www.indexmundi.com/zambia/age_structure.html (Accessed: 26 March 2021).

Kajiita, R. M., Nomngcoyiya, T. and Kang'ethe, S. M. (2020) 'The "revolution" on teaching and learning: Implications of COVID-19 on social work education in Institutions of Higher Learning in Africa | African Journal of Social Work', *African Journal of Social Work*, 10(3), pp. 25–33.

Kayombo, K. M. and Mwiinga, B. (2021) 'Acceptability and Challenges of Online Higher Education in the COVID-19 Era in Zambia', *ACADEMICIA An International Multidisciplinary Research Journal*, 11(2). Available at: https://saarj.com.

Kearns, L. R. (2012) 'Student Assessment in Online Learning: Challenges and Effective Practices', *Journal of Online Learning and Teaching*, 8(3), p. 11.

Ladyshewsky, R. K. (2015) 'Post-graduate student performance in "supervised in-class" vs. "unsupervised online" multiple choice tests: implications for cheating and test security', *Assessment & Evaluation in Higher Education*, 40(7), pp. 883–897. doi: 10.1080/02602938.2014.956683.

Motala, S. and Menon, K. (2020) 'In search of the "new normal": Reflections on teaching and learning during Covid-19 in a South African university', *Southern African Review of Education*, 26(1), pp. 80–99.

Prigoff, J., Hunter, M. and Nowygrod, R. (2020) 'Medical Student Assessment in the Time of COVID-19', *Journal of Surgical Education*, 78(2), pp. 370–374. doi: 10.1016/j.jsurg.2020.07.040.

Slamet, A., Amrullah, A. M. K. and Sutiah, A. R. (2021) 'Differences in the Experience of Lecturers and Students on Distance Learning In Higher Education in Indonesia: Case Study in the Pandemic of Covid-19', *Systematic Reviews in Pharmacy*, 12(1), p. 6.

White, A. (2020a) 'Amanda White on education for and detection of contract cheating in virus times | Campus Morning Mail'. Available at: https://campusmorningmail.com.au/news/education-for-and-detection-of-contract-cheating-in-the-age-of-covid-19/ (Accessed: 20 March 2021).

White, A. (2020b) 'May you live in interesting times: a reflection on academic integrity and accounting assessment during COVID19 and online learning', *Accounting Research Journal*, ahead-of-print(ahead-of-print). doi: 10.1108/ARJ-09-2020-0317.

Wu, D. T. *et al.* (2020) 'The impact of COVID-19 on dental education in North America—Where do we go next?', *European Journal of Dental Education*, 24(4), pp. 825–827. doi: 10.1111/eje.12561.