

Timely Completion of Online Assignments among Health Professional Students; an Evaluation of Open Distance and eLearning Platform at a Higher Education Institution (HEI) in Uganda

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Abstract

To foster continuity of learning in universities, the Uganda National Council of Higher Education (NCHE) approved Emergency Open Distance and eLearning (ODEL) strategies in 2020. This was implemented at Clarke

International University. The study therefore sought to determine the timely completion of online assignments among health professional students at Clarke International University. The quantitative approach was undertaken using the analytical cross-sectional study design from August 2021 to May 2022. Data was collected from systematic randomly selected 317 respondents using a self-administered questionnaire. The chi-square or Fisher's exact tests were performed for comparison and binary logistic regression was conducted at multivariate analysis. Out of 317 respondents, timely completion of online assignments was observed at 79.8%. The odds of timely online completion reduced with courses that did not integrate theoretical course concepts with real-world applications (adjusted odds ratio [AOR]: 0.1, 95%; confidence interval [CI]: 0.0–0.5); and increased with feedback (AOR: 2.7, 95%; CI:1.1–6.8), user-friendly ODeL platform (AOR: 3.8, 95%; CI:1.2–12.1), ODeL training and orientation (AOR: 2.6, 95%; CI:1.1–6.5) and internet access (AOR: 5.0, 95%; CI: 2.0–16.0). A substantial number of students complete their online assignments on time owing to ease of access to the internet, continuous training on how to manoeuvre through the ODeL platform, and receipt of prompt feedback on online coursework. Higher education institutions need to design ODeL platforms where access can be achieved offline and also make its training mandatory.

Keywords: Timely completion; Online assignment; Health professional; E-learners; ODeL.

Background

Assessment for learning is an important aspect of e-learning in that it enables evaluation of learner performance. The main reason for assessing learners is to gauge students' understanding of the subject matter, inform genuine improvement actions and give students useful feedback about their assignments (Paolini, 2015; Archer, 2017). The ongoing technological revolution in the 21st century has fostered digital inclusion in higher education and online learning that has resulted in technology-mediated assessment of student learning (tests, coursework, quizzes, multiple-choice questions, forum discussions, written essays etc.) (Linden & Gonzalez, 2021).

The current online form of assessment of the students, when compared with the traditional mode of pen and paper, has benefits and challenges. The documented challenges include technical issues such as poor internet connectivity and other information technology glitches (Mpirirwe et al., 2021). Online assessments are also more susceptible to cheating than traditional pen-and-paper assessments (Garg & Goel, 2022; Weleschuk et al., 2019). Unlike in-person assessments, online assessments may not have the same level of invigilation, making it difficult to ensure that the learners are not cheating or receiving outside help with the exam (Gamage et al., 2020). Indeed, teachers' preference for pen-and-paper assessments has been attributed to the ability to monitor and curb any form of academic dishonesty among learners (Gathuri et al., 2014; Gamage et al., 2020). Other documented challenges include the

fact that once submitted, the examination quite often cannot be modified, power fluctuations and untimely completion of assessments. Despite these challenges, there are a number of advantages, such as immediate feedback on results to students, minimising bulky paper-based assignments that require a large storage space, flexibility and convenience (Baleni, 2015; Garg & Goel, 2022; Weleschuk et al., 2019). Often, assignments are the prime source of motivation for students and drive their decisions on when and how to study.

In this study, we adopted the theory of reasoned action (TRA) developed by Ajzen and Fishbein (1980) which intends to explain all behaviours over which people have the ability to exert self-control and individual attitudes towards performing the behaviour in question, thus engaging in behaviour in a certain time and space. The theory was paramount in unveiling a combination of beliefs, attitudes and motivations that facilitated the evaluation of the three parties (student, faculty and the institution); and salient beliefs related to attitudes and subjective norms influencing the completion of online assignments of the three parties were evaluated. Online learner assignments include both theory and practical assessments that require student participation and responsiveness with regard to timely completion. Timely completion of online assignments was defined as the completion of assignments within the instructor's given deadlines. These are easily controlled by system settings compared to physical assignments where learners are timed and controlled by the invigilators. The timely completion of assignments in learning is often a critical factor and a measure of academic success (Yan et al., 2021). In recent years, there has been an increasing interest in online learning and online assignments using quizzes, multiple-choice questions, virtual-invigilated tests, and open-book and closed-book examinations. Garg and Goel (2022) found that timely completion of assignments is a critical factor and measure of successful assignments and is highly dependent on its completion time from start to delivery of results. Several other factors that affect the timely completion of assignments by learners include typing speed, internet bandwidth, differing technical abilities, less opportunity to clarify assignment guidelines and the ergonomics of hardware and software (Weleschuk et al., 2019).

As universities continue to streamline online learning, there is a need to understand the challenges of untimely completion of assignments, systematically assess these factors and determine possible sustainable solutions to mitigate these challenges. Since Clarke International University was among the first higher institutions of learning to roll out the emergency open and distance e-learning platform (ODEL) during the Covid-19 pandemic, we contend that the viability and sustainable integration of online learning and assessment into routine curricula and pedagogy depend upon understanding and successfully addressing emerging challenges. These experiences can be used to inform strategies, institutional policy review and implementation.

This study explored the timely completion of online assignments among health professional students – an evaluation of ODeL at Clarke International University, a private university in Uganda. This level of assessment ought to enable universities to put in place measures that

will be paramount in determining predictors of the timely completion of assignments in private universities.

Research Objectives

1. To establish the students-based factors associated with the timely completion of online assignments among health professional students at Clarke International University in Uganda.
2. To determine faculty-based factors associated with the timely completion of online assignments among health professional students at Clarke International University in Uganda.
3. To assess the institutional-based factors associated with the timely completion of online assignments among health professional students at Clarke International University in Uganda.

Literature Review

E-learning has been well recognised and mainstreamed into health sciences education (HSE) – medical, dental, public health, nursing and other allied healthcare education (Regmi & Jone, 2020). Educational institutions are increasingly adopting and implementing online learning, which includes timely completion of assignments. According to Al Rawashdesh’s (2021) study, online assignment completion and uptake are high among university students. In this context, relevant literature from different scholars on the components of an e-learning environment that influences the completion of online assignments (student-based, instructor-based and faculty-based) was reviewed.

Student-based factors associated with the timely completion of online assignments

According to Al-Adwan et al. (2021), confidence in online communication and ease of navigation on the e-learning platform are vital factors in the timely completion of assignments in online studying environments. However, difficulties juggling expectations at work, family responsibilities, personal time and schoolwork often arise for non-traditional students. Student motivation also may fluctuate during students’ enrolment and may be impacted by situational factors, such as financial problems, access to the internet, family distress, employment status etc. (Newhouse & Cerniak, 2016).

A study by Alyami et al. (2021) suggests that time management affects students’ performance. However, no statistically significant link was found to exist between time management and finishing tasks. According to Dalphe et al. (2013), some online adult students feel that their instructors are inflexible about deadlines and not supportive of the additional responsibilities that are presented. With this juggling can come reduced prioritisation of assignment deadlines and thus the student may justify procrastination over assignment completion and incompleteness. Santelli et al. (2020) argue that females in particular face additional barriers as adult learners enrolled in college due to commitments from multiple roles and insufficient social and family support. Additionally, the level of task difficulty is

associated with failure to complete the tasks on time. A study by Phillips and Trainor (2014) found that highly motivated students with good time management skills were more likely to complete their online assessments on time. Furthermore, Husmann and O'Loughlin (2019) report that students who complete online tests in the allotted time typically perform better than those who take longer to finish the same tests, and students who complete their online quizzes and assessments on time receive higher grades than those who turn in their work beyond the due date. Other researchers such as Yilmaz (2017) and Akram et al. (2019) have investigated the effect of academic procrastination on assignments in distance learning and found that students' academic procrastination and assignment scores were negatively correlated in both face-to-face and distance learning environments.

According to Gillet-Swan (2017), students attending online courses often face difficulties ranging from digital literacy, conceptual understanding, technical issues and access to the e-learning platform, to internet quality and connectivity issues. Hampton et al. (2020) report that students who do not have access to the internet perform lower on a range of metrics, including digital skills, homework completion, and grade point averages. Importantly, Markova et al. (2017) emphasise the importance of instructional and technical support from online instructors. It is vital to overcome these issues by engaging students collectively for improved learning outcomes.

Faculty-based factors associated with the timely completion of online assignments

According to Al-Balas et al. (2020), enrolment in e-learning programmes is swiftly rising, despite the difficulties faced by students in completing online assignments on time. Therefore, the contribution of facilitators cannot be ignored. Interestingly, e-learning is viewed by learners as a complement rather than as a substitute for the traditional educator-led teaching method (Venkatesh et al., 2020). However, Beyari et al. (2018) emphasise how a facilitator's physical presence drives students' satisfaction. It, therefore, serves as part of a blended learning system that combines e-learning technology with traditional educator-led teaching (Gray, 2010).

Educators, faculty support staff, researchers and instructional designers are faced with the task of understanding the pedagogical implications of timely completion of online assignments (Kauffman, 2015). Educators are encouraged to serve as facilitators of learning rather than sole distributors of content knowledge (Venkatesh et al., 2020). Alnagar (2020) made predictions on the following variables: instructor attitude and response; ease of manoeuvring on the online platform; the flexibility of course offered in an e-learning environment; assessment diversity; online course flexibility; quality of classroom interactions and the internet; type of programme offered; workshops; and explanations offered by the e-learning instructors as predictors or influencers of timely completion of online assignments. However, Al-Nefaie (2015) argues that in Saudi Arabia, for example, the attitude of the instructor towards the e-learning system does not influence access to and navigation on the ODeL platform, which affects the timely completion of their online assignments. Hurtado et al. (2011) argue the opposite, and indicate that faculty members play a key role in the identification and training

of the next generation. Through their study, 117 students from higher education institutions of learning were interviewed and they reported how interacting with faculty enabled them to gain access to resources that helped them achieve their educational goals. This clearly indicates that faculty interaction with students will probably enhance the timely online submission of their assignments. Student-faculty engagement is equally important. According to Lay-Hwa Bowden (2013), faculty perceive that retaining students in higher education institutions is dependent on their level of bonding to be able to achieve timely programme completion. Students can only complete programmes when they submit the assignments. This clearly indicates that faculty have a vital role to play in supporting students to complete their assignments prior to programme completion (Wan et al., 2019).

Institutional-based factors associated with the timely completion of online assignments

Using contexts for the effective use of e-learning in medical education has been reported as an area that warrants research (McCoy et al., 2015). Institutional-based factors such as system functionality, content feature (technological environment), as well as social interactions and collaborative learning (social environment), affect the perceived usefulness of blended learning. Butt et al. (2022) report that institutional environments and infrastructures such as class sizes, sufficient research equipment and quality of teaching content critically impact students' performance and are typically mediated by user satisfaction. Relatedly, researchers (Rajabalee & Santally, 2021) emphasise the important role of institutional e-learning policies that are designed to foster faculty support, minimise technical difficulties, enhance student support and use analytics in bolstering online student satisfaction, engagement and performance in general.

Collectively, all these factors are critical to a successful e-learning programme. Nortvig et al. (2018) note that online studying, including ease of navigation on the online platform, has achieved a greater impact in the education industry. In Uganda, the interactivity sub-dimension of online studying should inform the education sector to make evidence-based decisions in designing an open and distance learning environment (Bashir, 2019). Alnagar (2020) made predictions on the following variables as predictors or influencers of timely completion of assignments online: instructor attitude and response; ease of access and manoeuvring on the online platform; the flexibility of course offered in an e-learning environment; assessment diversity; online course flexibility; quality classroom interactions and the internet; type of programme offered, workshops; and explanations offered by the e-learning instructors.

Methodology

Study design and setting

We employed a quantitative approach using an analytical cross-sectional study design and data was collected from participants electronically at a single point in time. The study was conducted at Clarke International University, located in Bukasa in Kampala Capital City Authority. The

choice of the study setting was based on the fact Clarke International University was among the first 21 institutions of higher learning in Uganda to be accredited for online teaching and research supervision during the Covid-19 lockdown. Clarke International University also has a history of implementing e-learning and boasts both e-learners and traditional face-to-face students that were all integrated onto the e-learning system during the lockdown. The study was, therefore, timely for Clarke International University to ensure ongoing evidence-based implementation of all aspects of learning and teaching, including technology-mediated assessment of learning.

Study population and study sample

We had a total of 1,070 continuing health professional students who were enrolled on the CIU ODeL platform (learning management system) and we used the Yamane formula (1965) for finite population to determine the desired sample size $N/(1+N(e)^2)$, $n = \text{sample}$, $N = 1070$, $e = 5\%$ (0.05).

On substituting: $n = 1070 / 1 + 1070(0.05)^2$
 $n = 1070 / 3.675$
 $n = 291$

This gave us a sample size 291. Then we added 10% (29) to cater for non-response, which gave us the desired sample size of 320 respondents. Out of 320 we got 317 (response rate of 99.1%). Systematic random sampling was employed to reach the individual respondents.

Data collection and processing

Data was collected from students on the timely completion of online assignments during the Covid-19 lockdown using a smart survey where emails were distributed using the e-learning mailing list feature. This enabled ease of questionnaire distribution and the collection of reliable data in real time. Unique identifiers like the email addresses and names of participants were removed before data analysis to ensure the confidentiality of the data. The tool assessed the timely completion of online assignments among health professional learners. Informed consent was obtained from the selected participants. The study protocol was approved by the Clarke International University Research Ethics Committee.

Data analysis

The analysis was done in Statistical Package for Social Sciences (SPSS) version 20. Data analysis was quantitative. In the descriptive analysis, the mode (the most frequent response) was used as the measure of central tendency. The frequency and percentage of each response were displayed in tables.

At bivariate analysis, a chi-square test was conducted to determine the factors that were associated with timely completion of online assignments. At multivariate analysis, all variables significant at bivariate analysis were run in the multiple linear regression models. The chi-square test was employed for larger cell counts > 5 , whereas Fisher's exact test was employed

for smaller cell counts < 5. The level of statistical significance was set at less than 0.15 to avoid residual confounding. Variables were considered statistically significant at a p-value < 0.05.

Results

This section presents findings in line with research questions on student-based factors, faculty-based factors, institutional-based factors and timely completion of online assignments. Under student-based factors, the sub-variables were training and orientation on ODeL access to the internet and user-friendly ODeL. Under the faculty-based factors, the sub-variables were availability of an online instructor, availability of content ODeL, availability of course outline on ODeL with a reading list, integration of theoretical course concepts with real-world applications, and prompt feedback from online instructors. Under the institution-based factors, the sub-variables were adequate library resources, ICT and e-learning support.

Of the 317 students that responded, 59.2% were postgraduate and 40.8% were undergraduate students. Timely completion of online assignments was observed among 79.8% of the respondents.

With regard to student-based factors, 75.4% of the respondents were trained and oriented on ODeL, 59% were able to access the internet and 30% did not find the ODeL platform user-friendly. With regard to the faculty-based factors, 82.4% of the respondents reported availability of an online instructor, 95.3% found content on the ODeL platform, and 72.9% reported availability of a course outline with a reading list on the platform. Among the institutional-based factors, 65% of the respondents reported that the library resources were adequate and 71.9% reported that the institution provided ICT and e-learning support as indicated in (Table 1).

Table 1: Descriptive analysis of factors associated with timely completion of online assignments

Variables	Frequency	Percentage
Student-based factors		
Training and orientation on ODeL		
No	78	24.6
Yes	239	75.4
Completed online assignments		
Yes	253	79.8
No	64	20.2
I could easily access the internet for my online classes		
Agree	187	59.0
Disagree	62	19.6
Neutral	68	21.5

User-friendly ODeL platform		
Agree	208	23
Disagree	18	30
Neutral	27	11
Faculty-based factors		
Availability of an online instructor		
Agree	261	82.4
Disagree	21	6.6
Neutral	35	11.0
Availability of content ODeL		
Agree	302	95.3
Disagree	11	3.5
Neutral	4	1.3
Available of course outline on ODeL with a reading list		
Agree	301	95.0
Disagree	8	2.5
Neutral	8	2.5
Integration of theoretical course concepts with real-world applications		
Agree	302	95.3
Disagree	5	1.6
Neutral	10	3.2
Prompt feedback from online instructors		
No	86	27.1
Yes	231	72.9
Institutional-based factors		
Adequate library resources		
Agree	206	65.0
Disagree	40	12.6
Neutral	71	22.4

ICT and e-learning support		
Agree	228	71.9
Disagree	29	9.1
Neutral	60	18.9

Bivariate analysis of factors associated with timely completion of online assignments

To determine the student-, faculty- and institutional-based factors associated with timely completion of online assignments, a chi-square test or Fisher's exact test was performed.

The student-based factors under the study were training and orientation on ODeL, access to the internet, finding the ODeL platform user-friendly and integration of theoretical course concepts into the real world. The findings revealed that the student-based factors that were significantly associated with timely completion of online assignments were training and orientation on ODeL ($p=0.001$), ease to manoeuvre through the ODeL ($p < 0.001$), access to the internet ($p=0.001$) and ability to integrate theoretical course concepts into the real world ($p= 0.023$).

The faculty-based factors under the study were availability of online instructors, content on ODeL, course outline with a reading list on ODeL and prompt feedback. The findings revealed that the student-based factors associated with timely completion of online assignments were availability of an online instructor ($p= 0.019$), availability of content on the platform ($p= 0.049$), updated content with reading lists ($p=0.038$) and the promptness of feedback from online instructors ($p=0.005$).

Last but not least, the institutional-based factors associated under the study were adequate library resources and ICT and e-learning support. The results show that availability of ICT and e-learning support ($p= <0.001$) and availability of library resources ($p= 0.004$) were significantly associated with timely online submission, as indicated in Table 2.

Table 2: Bivariate analysis of factors associated with timely completion of online assignments

Variable	Timely completion of online assignments		Chi-square/ Fisher's value	P-value
	Yes 253 (79.8%) Freq. (%)	No 64 (20.2) Freq. (%)		
Student-based factors				
Training and orientation on ODeL			Chi-square 18.534	0.001
No	49 (62.8)	29 (37.2)		
Yes	204 (85.4)	35 (14.6)		

User-friendly ODeL platform			Chi-square 70.148	<0.001
Agree	208 (90.0)	23 (10.0)		
Disagree	18 (37.5)	30 (62.5)		
Neutral	27 (71.1)	11 (28.9)		
Access internet			Chi-square 74.0417	<0.001
Agree	177 (91.7)	16 (8.3)		
Disagree	22 (39.3)	34 (60.7)		
Neutral	54 (79.4)	14 (20.6)		
Integration of theoretical course concepts into real-world applications			Fisher 7.057	0.023
Agree	245 (81.1)	57 (18.9)		
Disagree	3 (60.0)	2 (40.0)		
Neutral	5 (50.0)	5 (50.0)		
Faculty-based factors				
Availability of an online instructor			Fisher 8.432	0.019
Agree	210 (80.5)	51 (19.5)		
Disagree	12 (57.1)	9 (42.9)		
Neutral	31 (88.6)	4 (11.4)		
Availability of content on the platform			Fisher 6.088	0.049
Agree	232 (81.6)	52 (18.3)		
Disagree	13 (61.9)	8 (38.1)		
Neutral	8 (66.7)	4 (33.3)		
Updated course content with relevant reading lists			Fisher 3.824	0.038
Agree	220 (79.7)	56 (20.3)		
Disagree	12 (63.2)	7 (36.8)		
Neutral	21 (95.5)	1 (4.5)		
Feedback from online instructors			Chi-square 13.411	0.005
No	57 (66.3)	29 (33.7)		
Yes	196 (84.8)	35 (15.2)		
Institutional-based factors				

ICT and e-learning support			Chi-square 16.499	<0.001
Agree	191 (83.8)	37 (16.2)		
Disagree	15 (51.7)	14 (48.3)		
Neutral	47 (78.3)	13 (21.7)		
Adequate library resources			Chi-square 6.236	0.004
Agree	169 (82.0)	37 (18.0)		
Disagree	26 (65.0)	14 (35.0)		
Neutral	58 (81.7)	13 (18.3)		

Multivariate analysis of factors associated with timely completion of online assignments

All variables that were statistically significant at bivariate analysis were subjected to multivariate analysis where, specifically, binary logistic regression was conducted. The results revealed that the odds of timely online completion of online assignments were reduced with inability to integrate theoretical course concepts with real-world applications (AOR: 0.1, 95%; CI: 0.0–0.5) and increased with feedback (AOR: 2.7, 95%; CI: 1.1–6.8), a user-friendly ODeL platform (AOR: 3.8, 95%; CI: 1.2–12.1), ODeL training and orientation (AOR: 2.6, 95%; CI: 1.1–6.5) and internet access (AOR: 5.0, 95%; CI: 2.0–16.0), as indicated in Table 3.

Table 3: Multivariate analysis of factors associated with timely completion of online assignments

Variable	COR [95%CI]	AOR [95%CI]
Integration of theoretical course concepts with real-world applications		
Agree	0.7 [0.1-5.9]	0.3 [0.1-6.6]
Disagree	0.2 [0.1-0.8]	0.1[0.0-0.5] *
Neutral	1 (Reference)	
Training and orientation on ODeL		
Yes	3.1 [1.7-5.7]	2.6 [1.1-6.5] *
No	1 (Reference)	
User-friendly ODeL platform		
Agree	4.1[1.6-10.2]	3.8 [1.2-12.1] *
Disagree	0.3 [0.1-0.6]	0.4 [0.1-1.3]
Neutral	1 (Reference)	

Access to internet		
Agree	5.0 [2.3-10.9]	5.7 [2.0-16.0]
Disagree	0.2 [0.1-0.5]	0.4 [0.1-0.9]
Neutral	1 (Reference)	
Feedback from online instructors		
Yes	2.6 [1.4-4.6]	2.7 [1.1-6.8] *
No	1 (Reference)	

Discussion

Timely completion of online assessments is an important aspect of online learning, and it has received significant attention from researchers in recent years. This research study showed that timely completion of online assignments was observed among 79.8% of the respondents; this is similar to the findings of a study by Al Rawashdesh (2021), which found online assignment completion and uptake to be high among university students. On the contrary, Yilmaz (2017) reported the opposite; the study found that online assignment completion was low among students undertaking assignments using an online system compared to the traditional system/ method, particularly when comparing procrastination and assignment scores (Yilmaz, 2017). Also, delaying an assignment was attributed to poor outcomes in terms of academic performance (Akram et al., 2019; Nordby et al., 2017).

In addition, our study has identified several factors that can influence the timely completion of online assessments. These include the student's ability to access ICT support ($p < 0.001$); the promptness of feedback from online instructors ($p = 0.005$); ease to manoeuvre on the ODeL platform ($p < 0.001$); orientation on ODeL ($p = 0.001$); and access to the internet ($p = 0.001$). A study by Phillips and Trainor (2014) found that highly motivated students with good time management skills were more likely to complete their online assessments on time. This is in line with the theory of reasoned action (TRA) developed by Ajzen and Fishbein (1980) which intended to explain all behaviours over which people have the ability to exert self-control and the individual's attitude towards performing the behaviour in question. The study also found that the design of the assessments can influence student completion rates, with assessments that are easy to navigate and understand being more likely to be completed on time.

According to some studies, students who complete online tests in the allotted time typically perform better than those who take longer to finish the same tests. For example, according to a study by Husmann and O'Loughlin (2019), students who completed their online quizzes and assessments on time received higher grades than those who turned in their work beyond the due date. The study also found that students who completed the assessments within the given time frame understood the course material better than those who submitted their work late, implying that adequate preparation of students was a likely important factor in the timely completion of assignments. Not all studies support this finding,

however. Another study that looked at how time management affects students' performance showed no statistically significant link between time management and finishing tasks (Alyami et al., 2021).

Institutional-based and faculty-based factors were also important. In this study, poor internet access lowered the odds of completing online assignments Adjusted Odds Ratio [AOR]: 0.01, 95%; CI: 0.001 – 0.033) and the odds of not completing assignments on time increased with failure to manoeuvre on the ODeL platform (AOR: 4.8, 95%; CI: 1.17–19.97) and delayed coursework feedback from instructors (AOR: 9.97, 95%; CI: 1.70–58.5). This implies that institutional infrastructure, appropriate orientation and training of students as well as faculty support are the key elements needed for successful and timely completion of assignments. Researchers (Rajabalee & Santally, 2021; Butt et al., 2022) document the critical role of enabling institutional e-learning policies that are designed to foster faculty support, minimise technical difficulties, and enhance student support and the use of analytics in bolstering online student satisfaction, engagement and performance.

Other studies have investigated the impact of technology on the timely completion of online assessments. For example, a study by Wan and colleagues (2019) found that providing students with automatic reminders and alerts can help improve timely completion rates. The study also found that faculty provision of feedback and support can help them improve their time management skills and complete their assessments on time.

Overall, our study suggests that timely completion of online assessments is an important aspect of online learning and that there are several factors that can influence completion rates. To help students complete their assessments on time, it is important for instructors to design assessments that are easy to navigate and understand, and to provide students with the necessary support and resources to improve their time management skills. Indeed, researchers such as Markova et al. (2017) highlight the importance of instructional and technical support from online instructors.

Conclusion

A substantial number of health professional students complete their online assignments on time. The student-based factors that were significantly associated with timely completion of online assignments were: training and orientation on OdeL; ease to manoeuvre through the ODeL (user-friendly e-platform); access to the internet; and ability to integrate theoretical course concepts into the real world.

The faculty-based factor that was associated with timely completion of online assignments was promptness of feedback from online instructors. Though availability of an online instructor, availability of content on the platform, updated content with reading lists were found to be statistically significant at bivariate analysis, they were not statistically significant at the multivariate analysis.

Last but not least, though at bivariate analysis, availability of ICT, e-learning support and availability of library resources (institutional-based factors) were found to be associated with

timely online submission, none of these variables were significant at multivariate analysis. Timely online submission is significantly associated with student-based and faculty-based factors.

Recommendations

With regard to student-based factors associated with online submission of assignments, students should endeavour to attend institutional ODeL training and orientation. Students are also advised to always integrate theoretical course concepts with real-world applications to increase their ability to understand and attempt online assignments in real time. Successful completion of online assignments can be bolstered through investing in the internet.

With regard to faculty-based factors, online instructors should endeavour to provide prompt feedback to the students. Receiving prompt feedback motivates students to adjust and submit in real time. Further research should also be conducted to include students from other disciplines.

The institution should ensure that enabling policies are in place while also maintaining continuous training (for both students and faculty) on how to maneuver through the ODeL platform to help improve timely completion rates. In addition, the institution should make the ODeL training and orientations compulsory for all students. Higher education institutions need to design ODeL platforms where access can be achieved offline.

Limitations

The study also had limitations. The first limitation relates to generalisability. The study having been done at only one institution of higher learning, the results may not be generalised to higher education institutions in Uganda. Second, since the study utilised a cross-sectional design, we were able to determine associations and not causation. More research using robust methodology is required.

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Author Declaration

We the undersigned declare that this manuscript is original, has not been published before, and is not currently being considered for publication elsewhere.

We wish to confirm that there is no known conflict of interest associated with this publication and that there has been no significant financial support for this work that could have influenced its outcome.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property. In so doing, we confirm that we have followed the regulations of our institutions concerning intellectual property.

We understand that the corresponding author is the sole contact for the editorial process (including the Editorial Manager and direct communication with the office). She is responsible for communicating with the other authors about progress, completion of revisions and final approval of proofs. We confirm that we have provided a current, correct email address which is accessible by the corresponding author.

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