NIU Journal of Humanities Copyright©2023
Nexus International University ISSN: *3007-1704*; 8(4): 147–161

E-Skills and Digital Literacy: An Investigation into the Perceived Competencies of Distance Learning Students in the University of Lagos.

OLUSOJI OLUROTIMI ADEWUMI, ESTHER OLUWASAYO OLADELE
University of Lagos, Nigeria

Abstract. It is currently of utmost importance to ensure that students in higher education acquire and employ the digital literacy skills they will require to excel in their academic endeavours and personal lives. This research sought to find out students' perceptions of their digital literacy and e-skills and the digital tools they utilise on a daily basis. The Distance Learners at the University of Lagos were randomly sampled (stratified) to respond to the researcher-designed questionnaires, to elicit responses from the learners. 354 respondents being female and 306 being males. A Cronbach alpha value of 0.78 was obtained. Analysis of the research questions show that there is a significant gap between the perceived importance of e-skills and digital literacy competencies and their actual usage. The findings suggest that there may be a need for greater focus on developing e-skills and digital literacy competencies among distance learning students. For instance, 64.4% of respondents use technology very frequently in their coursework. Institutions and educators may need to provide training and support to help students develop these skills. Additionally, students may need to prioritize their own learning of these skills and seek out resources and opportunities to develop themselves. However, the negative perceptions of a small percentage of respondents suggest that there may be areas where improvements could be made. Institutions and educators may need to continually evaluate their support programs to ensure they are meeting the needs of students, and work to address any areas where support may be lacking.

Keywords: Digital Literacy, Perceived e-skills, Digital Information, Literacy Level, e-Skills

1. Introduction

In the field of open, digital and distance education, digital literacy is an important aspect in teaching and learning (Marín and Castañeda, 2022). Canchola-Gonzalez & Glasserman Morales (2020) perceives digital literacy as digital fluency, involving efficacy in the use of electronic resources. E-skills however are the abilities required to effective utilize electronic resources in learning, which is regarded as being competent or being digital literate. Distance learning however, has been described as the teaching and learning process that involves least physical contact between learners and facilitators thereby depending greatly on electronic commination for effectiveness (Akande, 2011). Distance learning has therefore become a significant component of higher education but has become prominent and of great recognition since the advent of COVID-19. All over the world and in Nigeria, Distance Learning has become a crucial aspect of institutions of higher education (Anietor, 2019). Therefore, it is expected that resources for e-learning are available to both learners and facilitators for ease of communication, especially in the virtual environment. Oladele and Adeniyi (2020), therefore, perceives distance learning as a great improvement to teaching and learning process, as it brings together facilitators and learners, though separated by space and time.

1.1 Statement of the Problem

Distance learning has become increasingly popular, and it requires students to have strong e-skills and digital literacy in order to succeed. Distance learning has been recognized as a form of learning that is highly technology-driven. Hence, learners are supposed to have e-skills and be digital literate to

enable academic success. However, little is known about the perceived competencies of distance learning students in these areas. This study therefore, aims to investigate the perceived e-skills and digital literacy competencies of distance learning students, with a focus on investigating the challenges they face and identifying ways to improve their skills.

The study specifically will:

- Investigate the perceived e-skills and digital literacy competencies of distance learning students and analyze their importance for academic success.
- Examine the variations in e-skills and digital literacy competencies across demographic factors such as age, gender, and educational background.
- Explore the confidence level of distance learning students in their e-skills and digital literacy competencies, identifying any variations across different competencies.
- Examine the changes in e-skills and digital literacy competencies over time and identify the factors that have contributed to these changes.
- Investigate the challenges faced by distance learning students in developing their e-skills and digital literacy competencies, and explore the strategies they have employed to overcome them.

1.2 Research Questions

- What essential e-skills and digital literacy competencies do distance learning students perceive as crucial for their academic success?
- To what extent are distance learning students confident in their e-skills and digital literacy, and how does this confidence vary across various competencies?
- How have the digital literacy and e-skills competencies of distance learning students evolved over time, and which factors have influenced these changes?
- What are the challenges faced by distance learning students in acquiring e-skills and digital literacy competencies, and what strategies have been employed to address these challenges?
- What digital literacy skills and e-competencies do distance learning students perceive as crucial for their academic success?

2. Literature Review

A teaching and learning strategy involving electronic resources is referred to as digital education requiring development of e-skills and being digital savvy. Digital technology has therefore been reported as the basis for learning experiences for students, especially in a virtual environment (Henderson et al., 2017). The report by FAO (2011), shows that E-learning involves using internet facilities and computer to aid teaching and learning, hence enhance academic performance of learners. Owesi (2018), opined that distance learning deals with both direct and indirect learning, involving the use of internet in a virtual classroom. It is therefore, necessary to research into the students' attitude to learning via e-resources and their competence in using these e-resources,

The Learning Management System (LMS), is the Moodle platform being used at the moment at the Distance Learning Institute of the University of Lagos. Therefore, a learner at the institute is expected to have access to a computer or an internet friendly mobile device and be computer literate, to access internet anywhere at any time.
To the best of researchers' knowledge, there is a dearth of information on perceived e-skills and digital literacy competencies of distance learning students, with a focus on investigating the challenges they face and identifying ways to improve their skills.

3. Theoretical Framework

This research work is hinged on the pedagodical model described by Redondo-Duarte et al., (2017), which promotes generation of known in a virtual learning environment, with the view to learn via various directive instructional strategies and learning technologies.

4. Methodology

Survey research design was employed for this study. The population of the study comprises of distance learning students of the university of Lagos. Stratified random sampling technique was employed to select 660 respondents across all year levels using the online google form questionnaire as the research instrument. A Cronbach alpha value of 0.79 was obtained, so as to ascertain the reliability of the instrument. A 4-point likert scale researcher-structures questionnaire titled E-Skills and Digital Literacy Questionnaire (ESDLQ) was designed to elicit responses from the respondents. The data obtained were analyzed using percentages and

presented in graphs and tables, in order to answer the research questions.Graphical demonstration was used for the demographic data while percentage was used to answer research questions 1 to 5.

5. Results

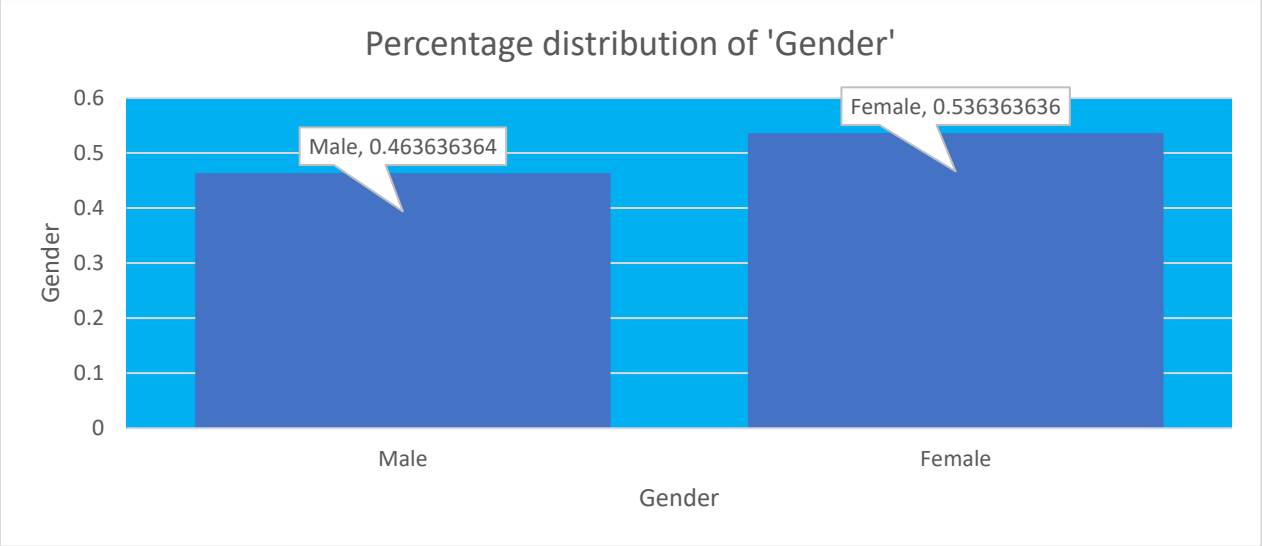

Figure 1 illustrates the gender distribution among the 660 respondents in the study, with 354 (53.64%) identifying as female and 306 (46.36%) as male. The data suggests a higher participation rate among female respondents compared to their male counterparts.

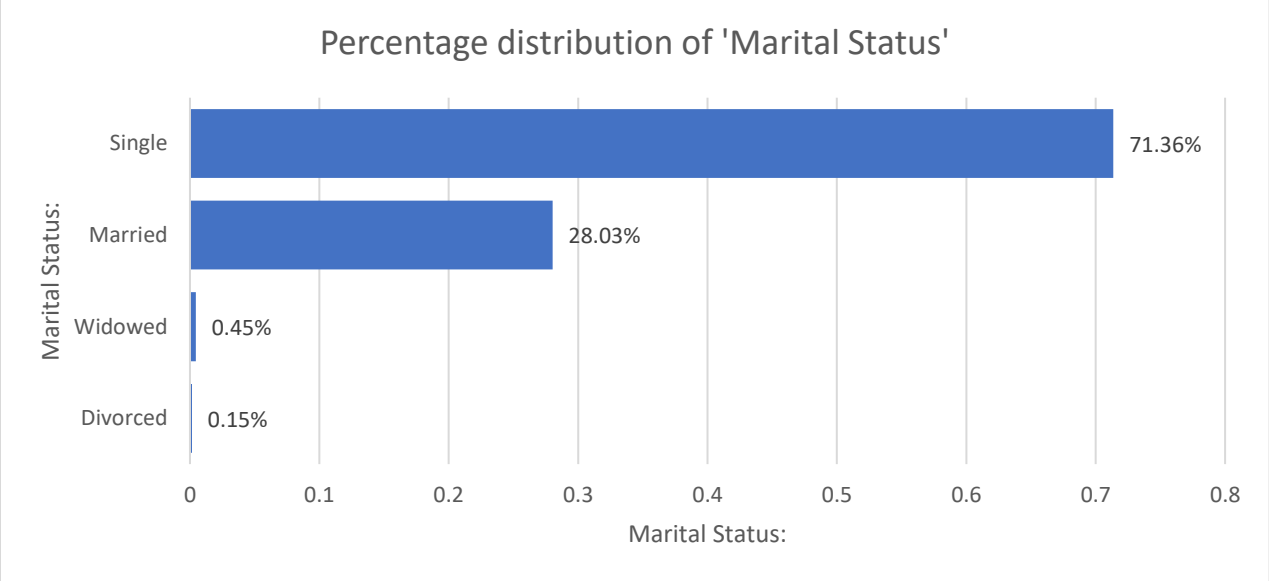

Figure 2 revealed that out of the 660 respondents, 471 (71.36%) are single, 185 (28.03%) are married, 3 (0.45%) are widowed, and 1 (0.15%) is divorced, indicating that the majority of respondents are single.

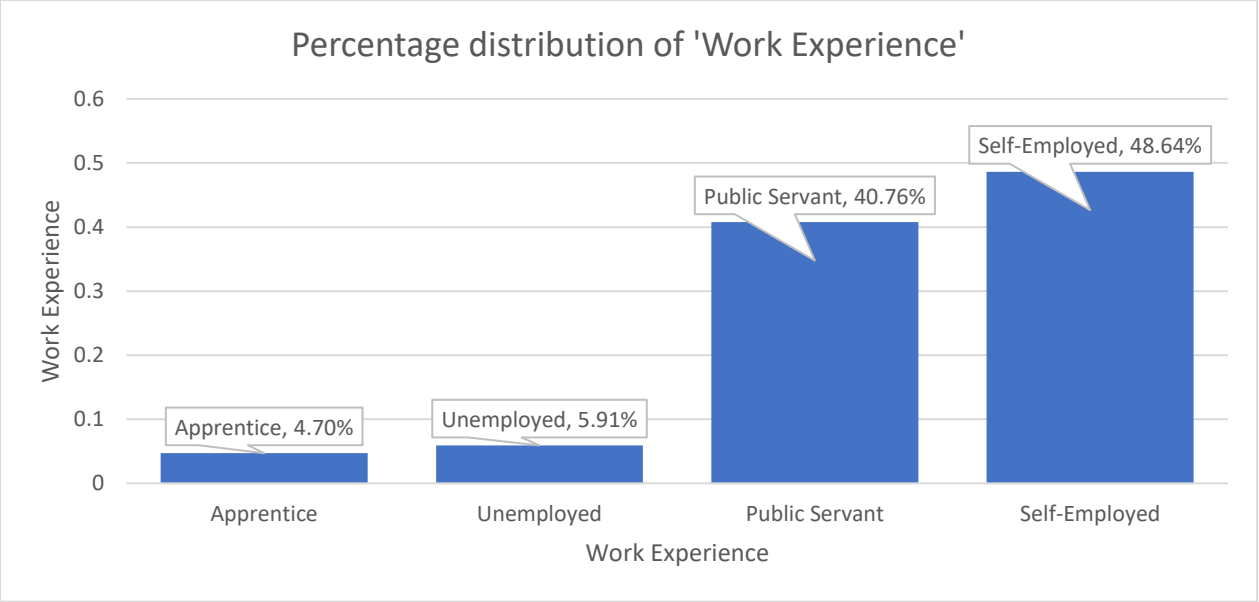

Figure 3 revealed that 31 (4.70%) of the respondents are apprentices, 39 (5.91%) are unemployed, 269 (40.76%) are public servants, and 321 (48.64%) are self-employed

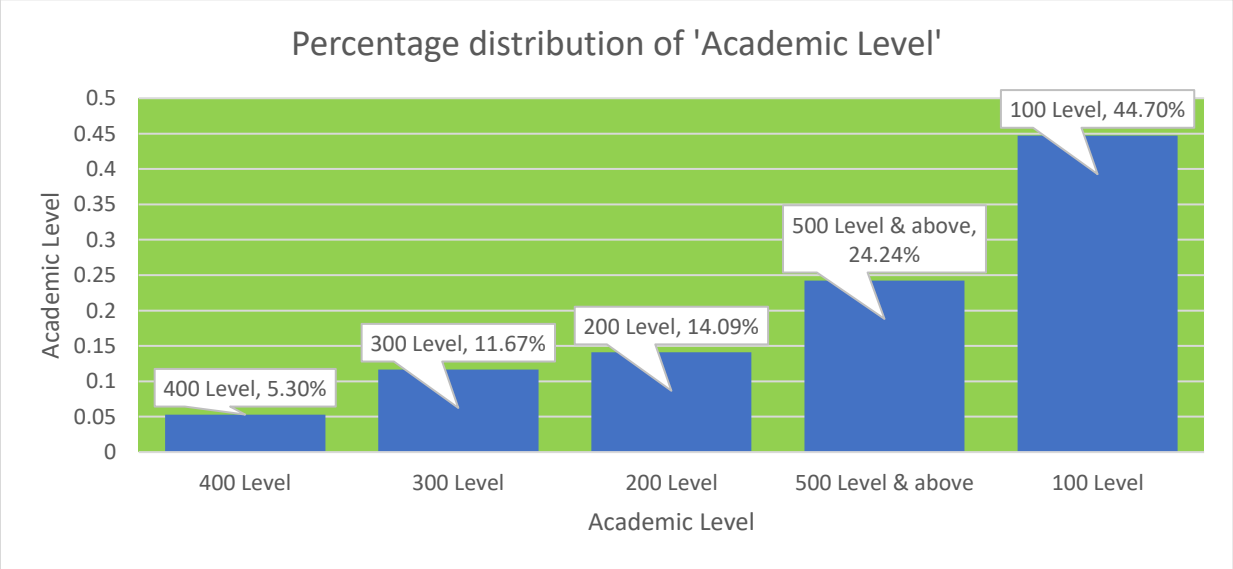

Figure 4 revealed the distribution of respondents among different academic levels. Out of the total 660 respondents, 35 (5.30%) were in the 400 level, 77 (11.67%) in the 300 level, 93 (14.09%) in the 200 level, 160 (24.24%) in the 500 level, and 295 (44.70%) in the 100 level.

Research Question 1: What essential e-skills and digital literacy competencies do distance learning students perceive as crucial for their academic success?

Table 1: Perceived significance of various e-skills and digital literacy competencies for academic success.

	Important (%)	Not important at all (%)	Somewhat important (%)	Very important (%)
Information literacy	20.5	0.2	1.7	77.7
Computer and software skills	21.1	0.6	2.4	75.9
Digital communication and collaboration	28.9	0.5	3.2	67.4
Internet and social media use	27.1	0.3	4.7	67.9
Online research and critical evaluation of information	24.2	0.2	3.8	71.8
Data management and analysis	26.2	0.9	4.7	68.2
Cybersecurity and digital privacy	24.4	1.5	4.1	70.0
Problem-solving and troubleshooting	27.3	0.5	5.3	67.0

Table 1 demonstrates the perceived significance of various e-skills and digital literacy competencies for academic success. Information literacy is regarded as very important as shown by 77.7% of respondents. Computer and software skills, Digital communication and collaboration received a 75.9%, 67.4% very important rating respectively by respondents. Internet and social media use, Online research and critical evaluation of information, Data management and analysis were viewed as very important by 67.9%, 71.8% and 68.2% respectively. Lastly, Cybersecurity and digital privacy and problem-solving and troubleshooting were rated as very important by 70.0% and 67.0% respectively of participants. The majority of respondents consider these skills to be crucial for success in their academic endeavors. Overall, results indicate that the distance learning students widely recognize the importance of these e-skills and digital literacy competencies for academic success.

Research Question 2: To what extent are distance learning students confident in their e-skills and digital literacy, and how does this confidence vary across various competencies?

Table 2: Confidence levels across various e-skills and digital literacy competencies.

Statement	Very Confident	Confident	Somewhat confident	Not very confident
Information literacy	40.2	38.0	13.9	7.9
Computer and software skills	38.0	40.3	14.1	7.6
Digital communication and collaboration	51.8	37.3	8.0	2.9
Internet and social media use	43.0	39.7	12.4	4.8
Online research and critical evaluation of information	35.0	40.2	16.5	8.3

Data management and analysis	32.9	37.0	18.9	11.2
Cybersecurity and digital privacy	34.8	38.5	16.8	9.8
Problem-solving and troubleshooting	40.2	38.0	13.9	7.9

The findings indicate that the majority of participants expressed confidence in utilizing these skills. In terms of information literacy, 40.2% reported being very confident, 38.0% confident, 13.9% somewhat confident, and 7.9% not very confident. Regarding computer and software skills, 38.0% were very confident, When assessing digital communication and collaboration skills, 51.8% of respondents were very confident. Overall, the results suggest that the majority of respondents have a high level of confidence in their e-skills and digital literacy abilities.

Research Question 3: How have the digital literacy and e-skills competencies of distance learning students evolved over time, and which factors have influenced these changes?

Table 3a: Technology use in coursework

	Very frequently (%)	Occasionally (%)	Rarely (%)	Never (%)
How often do you use technology for your coursework	64.4	27.4	6.8	1.4

The finding shows that a significant majority of respondents, 64.4%, use technology very frequently in their coursework.

Table 3b: Significance of strong e-skills and digital literacy competencies.

	Important (%)	Somewhat important (%)	Very important (%)
How important do you think it is for distance learning students to have strong e-skills and digital literacy competencies	10.9	0.5	88.6

The finding shows that an overwhelming majority of respondents, 88.6%, consider strong e-skills and digital literacy competencies to be of utmost importance for distance learning students.

Table 3c: Adequacy of support provided

	Agree (%)	Disagree (%)	Neutral (%)	Strongly Agree (%)	Strongly Disagree (%)
I feel that my academic program provides me with adequate support to develop my e-skills and digital literacy competencies.	38.9	5.0	12.4	42.4	1.2

The data reveals that a significant proportion of respondents have positive perceptions of the support provided by their academic programs in developing e-skills and digital literacy competencies. The fact that over 80% of respondents agreed or strongly agreed that their programs offer adequate support suggests that many institutions are making efforts to provide resources and training to help students develop these crucial competencies.

Research Question 4: What are the challenges faced by distance learning students in acquiring e-skills and digital literacy competencies, and what strategies have been employed to address these challenges.

Table 4a. Frequency at which respondents struggle to stay motivated during online learning

	Always (%)	Never (%)	Often (%)	Rarely (%)	Sometimes (%)
I struggle to stay motivated when learning online	19.1	14.8	13.8	15.6	36.7

The finding shows that a significant percentage of respondents experience motivation challenges when it comes to their studies. Specifically, 19.1% always face motivation challenges, 13.8% often encounter difficulties, and 36.7% sometimes experience issues. However, a substantial minority of respondents, 30.4%, rarely or never have motivation problems The data reveals that while motivation challenges are a common experience among respondents, they are not universal. While nearly one-fifth of respondents always face motivation challenges, an equal number never do, and the majority (36.7%) only sometimes struggle with motivation. This data suggests that motivation is a complex and multi-faceted issue, and that there is no one-size-fits-all solution for addressing it.

Table 4b. Frequency of technical difficulties encountered when using digital technologies for learning

	Moderately often (%)	Not often (%)	Often (%)	Slightly often (%)	Very often (%)
I encounter technical difficulties when using digital technologies for learning	18.5	31.2	16.2	26.2	7.9

The finding shows that a majority of respondents (31.2%) experience technical difficulties not often when using digital technologies for learning. The remaining respondents reported various levels of frequency of technical difficulties, with 26.2% slightly often, 18.5% moderately often, 16.2% often, and 7.9% very often. The data reveals that technical difficulties are a common experience among respondents when using digital technologies for learning, with only a minority reporting that they rarely or never encounter such difficulties. The fact that the majority of respondents experience technical difficulties not often suggests that while these issues are common, they are not typically severe enough to significantly disrupt learning. This data suggests that institutions and educators may need to provide support services to help students overcome technical difficulties, such as technical support and troubleshooting resources. Additionally, educators may need to design learning activities that take into account the potential for technical difficulties and provide alternate approaches for students who are unable to complete tasks due to these issues.

Research Question 5: Which digital literacy skills and e-competencies are perceived as essential by distance learning students for their academic success?

Table 5a: Respondents' Formal Training and Education in Digital Technologies for Learning

	Adequate (%)	Extensive (%)	Insufficient (%)	Non-existent (%)	Sufficient (%)
Have you had any formal training or education on digital technologies for learning?	29.2	9.5	25.6	10.5	25.2

The findings indicated the following distribution of training levels among respondents:

29.2% reported having adequate training, 9.5% reported having extensive training, 25.6% reported having insufficient training, 10.5% reported having non-existent training and 25.2% reported having sufficient training.

Table 5b: Frequency of Digital Technology Use for Informal Learning

	Never (%)	Occasionally (%)	Rarely (%)	Very frequently (%)
How often do you use digital technologies for learning outside of your formal studies?	2.9	36.7	13.9	46.5

The data reveals that a majority of the respondents (80.1% when you combine 'Occasionally' and 'Very Frequently') use digital technologies for learning outside their formal studies to some degree. Only a small fraction (2.9%) abstains from using such technologies altogether. It's evident that digital technologies play a significant role in the extracurricular learning habits of the surveyed population, with nearly half of them using these tools very frequently. This might imply that as technology continues to permeate everyday life, it's increasingly becoming a primary resource for informal learning among this group.

Table 5c: Respondents Comfort with Accessing and Evaluating Information

	Not comfortable at all (%)	Not very comfortable (%)	Somewhat comfortable (%)	Very comfortable (%)
How comfortable are you with accessing and evaluating information from digital sources (such as online databases, scholarly articles, and websites).	0.6	12.6	28.3	58.5

The data suggests that a substantial majority of respondents are comfortable or very comfortable with accessing and evaluating digital information sources. However, there are still notable percentages of individuals who have varying degrees of discomfort or lack of confidence in this regard. To address the needs of these different groups, it's important to provide tailored education, training, and support to help individuals improve their digital literacy and information evaluation skills. Additionally, understanding these comfort levels can be valuable for institutions and organizations in designing user-friendly digital platforms and resources.

Table 5d: Self-Perceived Digital Learning Competence

	I am comfortable navigating online learning platforms (%)	I believe I have the necessary skills to evaluate the credibility of online sources (%)	I feel confident in my ability to collaborate with others using digital tools (%)	I feel confident in my ability to use digital tools for learning (%)
How confident do you feel in your ability to use digital technologies for learning (such as online learning platforms, video conferencing tools, and digital collaboration tools)	22.3	10.8	16.1	50.9

The data reveals that while there is a substantial level of confidence in using digital tools for learning among the surveyed population, there are variations in confidence levels across different aspects of digital technology use. Navigating online learning platforms and overall digital tool usage are areas of relative strength, while evaluating online source credibility and digital collaboration skills have room for improvement for a significant portion of respondents. This information can be valuable for educators and institutions to tailor their digital literacy and technology training programs to address specific areas of need.

Table 5e: Frequency of Online Information Fact-Checking

	Always (%)	Never (%)	Often (%)	Rarely (%)	Sometimes (%)
How often do you fact-check information found online before using it?	28.3	1.4	28.9	12.9	28.5

The data suggests that a majority of respondents (approximately 85.7% when adding up the "always", "often", and "sometimes" categories) engage in some form of fact-checking when using online information. This shows a general trend of skepticism and the desire for accuracy when it comes to online content. However, there's still a segment (approximately 14.3% when combining "rarely" and "never") that does not frequently verify the authenticity of online information. Overall, the data underscores the importance of promoting fact-checking and media literacy, as a significant portion of respondents indicated that they do not always verify information before using it.

Table 5f: Perceived Importance of Evaluating Online Information Credibility

	Extremely Important (%)	Important (%)	Moderately Important (%)	Not Important (%)	Slightly Important (%)
To evaluate the credibility of information you find online before using it, how important is this for you?	39.1	38.2	11.5	1.4	9.8

The data reveals that a substantial majority of respondents (combining the "extremely important" and "important" categories) believe that evaluating the credibility of information found online is crucial. Only a small percentage of respondents do not prioritize credibility, indicating that most individuals recognize the importance of reliable information in today's digital age. Regarding the challenges posed by misinformation and disinformation, the results suggest that many people are cognizant of the importance of discerning the genuineness and reliability of online content.

Table 5g: Respondent's Comfort Level with Digital Content Creation and Sharing

	Not comfortable at all (%)	Not very comfortable (%)	Somewhat comfortable (%)	Very comfortable (%)
To create and share digital content, such as presentations, videos, and written documents, how comfortable are you with these?	2.3	20.2	33.0	44.5

The data reveals that a significant portion of respondents are comfortable with creating and sharing digital content, with a majority falling into the "very comfortable" and "somewhat comfortable" categories. While a majority of respondents are comfortable with creating and sharing digital content, there's still a considerable portion of the population that feels some discomfort.

Table 5h: Digital Learning Communication and Information-Seeking Behaviors

	Agree(%)	Disagree(%)	Neither agree nor disagree (%)	Strongly agree. (%)	Strongly disagree. (%)
It is easy for me to communicate with e-tutors and peers in a digital learning environment	48.3	11.2	21.5	11.2	7.7
Through instant messaging, I prefer to communicate with e-tutors and peers.	56.5	9.7	16.1	11.2	6.5
I have a preference for discussion forums, to communicate with e-tutors and peers.	59.5	7.1	16.7	12.0	4.7
I I have a preference for e-mail in communicating with e-tutors and peers.	44.2	21.1	21.4	5.6	7.7
I keenly look for information on new digital technologies for learning	63.3	6.1	12.4	13.9	4.2
In learning about new digital technologies for learning, I rely on recommendations from others	52.7	16.8	18.6	5.3	6.5

The finding above reveals that a majority of respondents have positive perceptions of their ability to communicate with e-tutors and peers in a digital learning environment. However, a smaller but still significant portion holds negative views, and a sizable group remains neutral or uncertain about their experiences. These findings suggest that improving communication and addressing the concerns of those with negative perceptions could enhance the overall digital learning environment's effectiveness and user satisfaction.

Also, majority of respondents favour using instant messaging for educational interactions, with a significant proportion showing strong agreement. However, there are also individuals who either have no strong preference or disagree with this mode of communication, highlighting the diversity of opinions and preferences within the surveyed group. Further analysis could explore the reasons behind these preferences and how they may vary based on factors such as age, education level, or the specific context of e-tutoring and peer interactions.

Table 5i: Perceived Frustration with Online Group Collaborations

	Frustrating (%)	Moderately Frustrating (%)	Not frustrating (%)	Slightly frustrating (%)	Very frustrating (%)
I feel frustrated when working on online group projects or collaborations	14.2	14.8	34.5	32.1	4.2

Do respondents feel frustrated when working on online group projects or collaborations? 14.2% indicated that it is frustrating, 14.8% indicated that it is moderately frustrating 34.5% indicated that it is not frustrating, 32.1% indicated that it is slightly frustrating, and 4.2% indicated that it is very frustrating.

The data reveals that while a majority of respondents experience some level of frustration when working on online group projects or collaborations, the degrees of this frustration vary. The most common sentiment is slight frustration, suggesting that while challenges do exist, they might be relatively minor for many. However, there is a significant portion who find the experience smooth and non-frustrating, indicating that online collaborative methods are working well for them. For educators or organizations facilitating online group collaborations, understanding these varied experiences can be essential in improving the online collaborative experience for everyone.

Table 5j: Engagement with Educational Content about New Digital Technologies

	Moderately often (%)	Not often (%)	Often (%)	Slightly often (%)	Very often (%)
I read articles or watch videos about new digital technologies for learning	15.5	27.1	28.8	17.9	10.8

How often do respondents read articles or watch videos about new digital technologies for learning? 15.5% indicated that it is moderately often, 27.1% indicated that it is not often, 28.8% indicated it is often, 17.9% indicated it is slightly often, and 10.8% indicated it is very often.

The data reveals a varied landscape of engagement. Over half of the respondents have a routine of keeping themselves informed about new digital technologies for learning by reading articles or watching videos. However, a significant portion either engages only occasionally or not often. For providers of digital learning technologies, this data emphasizes the importance of using varied channels and methods to reach and educate potential users, catering to both the highly-engaged segments as well as those who might need more prompting or awareness-building.

Table 5k: Perceived Helpfulness of Webinars and Workshops on New Digital Technologies for Learning

	Helpful (%)	Moderately Helpful (%)	Not Helpful (%)	Slightly helpful (%)	Very helpful (%)
I find it helpful to attend webinars or workshops about new digital technologies for learning	48.2	10.8	4.7	13.9	22.4

How often do respondents find it helpful to attend webinars or workshops about new digital technologies for learning? 48.2% indicated that it is helpful, 10.8% indicated that it is moderately helpful, 4.7% indicated it is not helpful, 13.9% indicated it is slightly helpful and 22.4% indicated it is very helpful.

The data reveals that webinars or workshops about new digital technologies for learning are perceived as valuable by a significant majority of respondents. With more than 70% finding them helpful to very helpful, it's evident that such sessions play a crucial role in informing and training people about digital learning technologies. For educators, trainers, or businesses in the digital learning space, these insights underscore the continued relevance and importance of hosting webinars and workshops as part of their outreach and educational efforts.

Table 5l: Digital Platform Navigation, Information Overload, and Confidence in Technology Use

	Always (%)	Never (%)	Often (%)	Rarely (%)	Sometimes (%)
I find it difficult to navigate digital platforms	7.3	19.1	9.1	25.8	38.8
I always feel overwhelmed by the amount of information online	25.5	7.0	16.1	10.6	40.9
I am extremely confident in my ability to use technology to enhance my learning experience	57.3	0.9	18.8	3.3	19.7

The data reveals a mixed landscape of digital navigation skills among respondents. While a majority face occasional challenges with digital platforms, a significant portion is either consistently comfortable or consistently struggling. This information is crucial for designers, developers, and educators in the digital realm, emphasizing the importance of user-friendly interfaces, clear instructions, and ongoing digital literacy training to cater to all user segments.

6. Discussion

The study revealed that distance learning students perceive e-skills such as information literacy, computer and software skills, digital communication and collaboration, cyber security, and digital privacy to be very important for their academic success. The findings of this study is also supported by Peterson, Dumont, Lafuente and Law (2018) who reported that the adoption of innovative skills from technology for learning, improves learner's interactivity, thus helping students to understand the concepts taught during the lessons. The findings are also attributed to students' active participation in the learning process through the use of technological tools. Hence, engagement of students with innovative technologies which is electronic is found to have a positive effect on students learning outcomes.

The result of this study is also in tandem with the findings of Gamage et al., (2020), who found that e-skills improve learners' participation and that students with e-skills access more content to aid their learning and interactivity during lessons. The result also corroborates the findings of (Kgalemelo, 2018; Nizal et al., 2016), who observed that e-skills with a relative level of competence improves learning, however, poor internet connectivity hampers students from effectively applying digital resources.

Oyarinde and Komolafe (2020), also reported that e-skills are needed for online learning, as such skills give room for learning. Ahmad et al. (2020) in his study observed students' readiness in use of technology to be very high where he reported that distance learning students feel confident in their e-skills and digital literacy competencies. The world is changing faster as well as the needs of students (Gamage et al., 2020). Peterson, Dumont, Lafuente and Law, (2018) and Paily, (2020) also reported that e-skills of students enhances their confidence in using technology.

It is an indication that if e-skills and competency would be great improvement and advancement in the teaching and learning process in tertiary institutions and the new normal will be taken care of.

Yamin and Ishak (2015) and Quadri (2012) e-skills are blended into existing students learning curriculum or offered individually as an independent course and the skill is essential to promote and increase interactivity in students learning. Lanvin and Kralik, (2009) Tyler, (2005) concluded that e-skill focuses on the skill that is related to the use of ICT and information technology (IT) tools for students learning. E-skills is vital among students as this skill is a value-added skill that a student must have in conjunction with their domain knowledge and the soft skills. Yamin et al., (2015) reported that students with adequate ICT skills are expected to be able to utilize the resources that they have such as the computer, network, and search engine to achieve their information need. Through these tools and applications, students can find all sorts of information, filter and analyze them.

Youssef et al. (2013) reported that IT integration in higher education has been steadily gaining interest over the past decade and learners are improving in the usage for effective learning. The implementation of the use of IT and to enhance students' e-skills acquisition for information gathering. This finding is in line with the finding of Yakob et al. (2012) that was carried to ascertain awareness of undergraduates in Malaysia about e-resources. Yakob et al. (2012) revealed that the students show significant awareness and relevance to various e-learning resources and skills presented to them. A similar study among undergraduates in National Open University of Nigeria Nwana, Egbe and Ugwuda (2017) also revealed significant competence level among undergraduates on various e-learning resources and e-skiils.

Mawere and Sai (2018) that was conducted among undergraduates in Zimbabwe. Mawere and Sai (2018) revealed that even though many Zimbabwean academic institutions have e-resources utilisation top agenda in their strategic plans, the adoption rate among students is still very limited because of student's poor perception of the new technology. Haque (2018) revealed divided opinions about student's perception on e-resources utilisation for learning with over 47.7% of the undergraduates having bad perception about the use of e-learning platforms.

7. Conclusion

The finding have revealed that a significant majority of the respondents prefer to communicate with e-tutors and peers through discussion forums and emails. This information can be valuable for educators and e-learning platforms in understanding the preferences of their users and potentially tailoring their communication and instructional strategies accordingly. Any educational or professional setting should consider these varied preferences when designing communication platforms. The data suggests that a substantial majority of respondents have a keen interest in exploring new digital technologies for learning, with a smaller but significant group feeling very passionate about it. Conversely, only a small fraction of respondents are not interested. Based on the findings of this study, institutions will be able to encourage new digital technologies for teaching and learning.

8. Recommendations

- Further training for learners on how to navigate their learning manage system using digital technologies is encouraged.
- Institutions should provide a range of resources and support services to for learners to be motivated.
- Additionally, students will surely benefit from personalized support that looks into their learning preferences and unique challenges.

References

Agbonlahor, M. (2005). Information and Communication Technologies (ICTs) and Education in Nigeria: Challenges and prospects. *Journal of Educational Technology and Society*, 8(1), 73-85.

Ahmad, S., & Lone, S. A. (2020). COVID-19 Pandemic – An African perspective. In Barros, V. R., Field, C. B., Dokken, D. J., et al. (Eds.), The COVID-19 Pandemic and Global Health (pp. 1199–1265). Cambridge University Press.

Akande, S. (2011). Computer and Internet Facilities Use in Distance Education: A Survey of Sandwich Students of University of Ado-Ekiti, Nigeria. Library Philosophy & Practice (e-journal) 452

Anietor, G. O. (2019). Approaches to promoting the Quality of Open and Distance Learning in Resource Poor Nations. *International Journal of Educational Research*. 6(1) 127-133.

Food and Agriculture of the United Nations (FAO). (2011): E-learning methodologies. A guide for designing and developing e-learning courses. Retrieved from http://www.fao.org/3/i2516e/i2516e.pdf

Gamage, S. K. N., Ekanayake, E. M. K. B., Rajapakshe, S. K., & Abeyrathne, G. A. K. N. J. (2020). Online delivery of teaching and laboratory practices: Continuity of university programmes during COVID-19 Pandemic. *International Journal of STEM Education*, 7(1), 1-17.

Gonzalez, J. A. C., & Glasserman-Morales, L. D. (2020). Factors that influence learner engagement and completion rate in an xMOOC on energy and sustainability. *Knowledge Management & E-Learning: An International Journal*, 12(2), 129–146. https://doi.org/10.34105/j.kmel.2020.12.007

Haque, M. M. (2018). Students' perception on e-resources utilization for learning: A study of public universities in Bangladesh. *International Journal of Educational Technology in Higher Education*, 15(1), 1-20.

Henderson, M., Selwyn, N. & Aton, R. (2017). What works and why? Student perceptions of 'useful' 'digital technology in university teaching and learning, 42 (8), 15671579.

Kgalemelo Rodnie Mafa (2018). Capabilities of Google Classroom as a Teaching and Learning Tool in Higher Education. IJSTE - *International Journal of Science Technology & Engineering* 5 (1) ISSN (online): 2349-784X

Lanvin, B., & Kralik, M. (2009). E-Skills: Who Made That Big Dent in My Flat World? *Information Technologies and International Development*, 5(2), 81-84

Marín, V. I., & Castañeda, L. (2022). Developing Digital Literacy for Teaching and Learning. Handbook of Open, Distance and Digital Education, 1–20. https://doi.org/10.1007/978-981-19-0351-9_64-1

Mawere, A., & Sai, M. (2018). E-resource utilisation among undergraduates in a developing country: A case of Great Zimbabwe University. *Library Philosophy and Practice*, 1(1), 1-11.

Nizal, I., Shaharanee, M., Jamil, J. M., Syamimi, S., & Rodzi, M. (2016). The Application of Google Classroom as a Tool for Teaching and Learning, 8(10), 5–8.

Nwana, C. O., Egbe, M. T., & Ugwuda, O. A. (2017). E-learning resources and e-skills competence among undergraduates in a Nigerian university. *Journal of Educational Technology & Society*, 20(4), 276-288.

Owesi, T.I (2018). Effects of Using a Blended Learning Method on students' Achievement and Motivational to learn English in Jordan: A pilot case study. Hindawi-Educational Research International, 2018 Article ID, 7425924, 7pages. Https: //dor.org./10.1155/2018/7425924.

Paily, M. U. (2020). Effect of scientific argumentation on the conceptual understanding of students in science education. *Journal of Research in Science Teaching*, 57(3), 347-368.

Peterson, A., Dumont, H., Lafuente, M., & Law, N. (2018). Understanding innovative pedagogies: Key themes to analyse new approaches to teaching and learning. Paris: Organisation for Economic Cooperation and Development (OECD). doi:10.1787/9f843a6e-en

Quadri, G.O. (2012). Impact of ICT Skills on the Use of E-Resources by Information Professionals: A Review of Related Literature. Library Philosophy and Practice. Retrieved from http://unllib.unl.edu/LPP/.

Redondo-Duarte, S., Sánchez-Mena, A., Navarro-Asencio, E., GutiérrezVega, S. (2017). Retrieved from https://digitalcommons.unl.edu/libphilprac/

Tyler, L. (2005). ICT Literacy: Equipping Students to Succeed in an Information-Rich, Technology-Based Society. An Issue Paper. Educational Testing Service.

Yakob, D., & Ahmad, N. (2012). Awareness of undergraduates in Malaysia about e-resources: A study at a public university.

Malaysian Journal of Library & Information Science, 17(3), 73-86.

Yamin, F. M., Ramayah, T., & Ishak, W. H. W. (2015). E-SKILLS OF UNDERGRADUATE STUDENTS. *Journal of Education and Social Sciences*, Vol. 4, (June) ISSN 2289-9855

Yamin, F.M., Ramayah, T., & Ishak, W.H.I (2013). Information Searching: The Impact of User Knowledge on User Search Behavior. J. Info. Know. Mgmt., 12(3), pp: 1350023 (10 pages)