

Digital Technology Utilisation and Career Readiness Among Educational Technology Students in Tai Solarin University Of Education

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Abstract

This study examined the relationship between digital technology utilisation and career readiness among Educational Technology students at Tai Solarin University of Education. A descriptive survey design was adopted. The population consisted of 1,076 undergraduate students, with a sample of 256 final-year students selected through enumeration sampling. Data were collected using the Digital Technology Utilisation and Career Readiness Questionnaire (DTUCRQ), which yielded a reliability coefficient of 0.87 using the test-retest method. Mean and standard deviation were used to answer the research question, while Pearson Product Moment Correlation was used to test the hypothesis at a 0.05 level of significance. Findings revealed that digital skills such as data analysis, user experience design, cybersecurity, artificial intelligence, digital marketing, and cloud computing are essential for enhancing career readiness. The study further showed a significant positive relationship between digital technology utilisation and career readiness ($r = 0.643$, $p < 0.05$). The study concluded that effective utilisation of digital technology significantly improves students' career readiness. It recommended increased investment in digital infrastructure and integration of relevant digital skills into the university curriculum to better prepare students for the modern workforce.

Keywords: Digital Technology Utilisation, Career Readiness, Educational Technology, Digital Skills, Undergraduate Students

Introduction

Career readiness has become a central concern in contemporary higher education due to the rapidly evolving demands of the global labour market. It refers to the acquisition of essential competencies, skills, attitudes, and knowledge required for individuals to secure, retain, and succeed in employment (Brewer, 2023; Nair, 2023). In recent years, the concept has expanded beyond mere academic achievement to include digital literacy, problem-solving ability, adaptability, and innovation, which are considered critical for survival in the twenty-first-century workforce (Pellegrino & Hilton, 2022; Thelma et al., 2024). This shift reflects the growing need for graduates who are not only knowledgeable but also capable of applying their knowledge effectively in real-world contexts. The increasing integration of digital technology into virtually all sectors of the economy has significantly transformed the nature of work and the skills required for employability. Digital technology encompasses a wide range of tools and systems, including artificial intelligence, cloud computing, data analytics, and digital communication platforms, which are now indispensable in modern workplaces (Aldemita et al., 2024; Adegbite, 2024). Consequently, the ability to utilise digital technology effectively has emerged as a key determinant of career readiness among university graduates. In this context, identifying the specific digital technology skills required for career readiness has become increasingly important. These skills extend beyond basic computer literacy to include competencies such as data analysis, user experience design, cybersecurity, digital marketing, cloud computing, and artificial intelligence, all of which enhance students' ability to function effectively in technology-driven environments (Ezoem et al., 2024; Thelma et al., 2024). The acquisition of these competencies not only improves employability prospects but also positions graduates to adapt to the dynamic nature of the global workforce.

Despite the increasing emphasis on digital skills, there is growing concern about the preparedness of university graduates, particularly in developing countries such as Nigeria. Employers have consistently reported a mismatch between the skills acquired by graduates and those required in the workplace (Olaniyi et al., 2022; Koyenikan & Anozie, 2024). This mismatch is often attributed to the overemphasis on theoretical knowledge in university curricula, with limited opportunities for practical application and digital skill development (Iro-Idoro & Jimoh, 2024). As a result, many graduates struggle to meet the expectations of employers, leading to high rates of unemployment and underemployment. This situation underscores the need to examine how digital technology utilisation can bridge the gap between academic training and workplace requirements.

In Nigeria, the challenge of graduate employability has become increasingly pronounced in recent years. The rapid advancement of technology, coupled with globalisation, has intensified competition in the labour market, making it imperative for graduates to possess relevant and up-to-date skills (Adegbite, 2024; Oladele, 2024). However, evidence suggests that many Nigerian university graduates lack adequate digital competencies, which limits their ability to compete effectively in both

local and international job markets (Ezoem et al., 2024). This raises critical concerns about the extent to which digital technology is being effectively utilised within higher education to enhance students' career readiness. Educational Technology students, in particular, are expected to be at the forefront of digital innovation and application in education and related fields. Their training is designed to equip them with the knowledge and skills required to integrate technology into teaching and learning processes effectively. However, the extent to which these students utilise digital technology and how such utilisation translates into career readiness remains insufficiently explored. Existing studies have shown that effective utilisation of digital tools enhances learning experiences, promotes self-directed learning, and equips students with practical skills that are directly applicable in the workplace (David et al., 2024; Adebite, 2024). Students who actively engage with digital technologies tend to demonstrate higher levels of adaptability, critical thinking, and problem-solving abilities competencies that are highly valued in the labour market (Oladele, 2024). This suggests that there may be a significant relationship between digital technology utilisation and career readiness, which warrants empirical investigation. Furthermore, the emergence of the Fourth Industrial Revolution (4IR) has intensified the demand for advanced digital competencies across various sectors. Technologies such as artificial intelligence, blockchain, and virtual reality are reshaping industries and redefining job roles, thereby necessitating a reorientation of educational systems to align with these changes (Shonhe et al., 2023). Higher institutions are therefore expected to integrate these technologies into their curricula to better prepare students for the future of work. Empirical evidence supports this position, as studies have demonstrated that the integration of digital technology into education significantly enhances students' employability and readiness for the labour market (Aldemita et al., 2024; David et al., 2024).

However, despite these insights, there remains a paucity of empirical studies focusing specifically on Educational Technology students within the Nigerian context. Most existing research has concentrated on general student populations or other academic disciplines, leaving a gap in understanding the unique dynamics of digital technology utilisation and career readiness among this group. Additionally, factors such as access to digital infrastructure, quality of instruction, and students' motivation to engage with technology further influence the effectiveness of digital skill acquisition (Aldemita et al., 2024; Oladele, 2024). In many Nigerian universities, inadequate funding and limited access to modern technological tools pose significant challenges to the development of these essential competencies. Given these challenges, it becomes imperative to investigate both the digital technology skills required for career readiness and the extent to which digital technology utilisation influences students' preparedness for employment. Understanding these dimensions will provide valuable insights into how educational institutions can enhance curriculum delivery, improve digital skill acquisition, and better prepare students for the demands of the contemporary workforce.

Despite the growing recognition of the importance of digital technology in enhancing graduate employability, there remains a persistent concern regarding the extent to which university students,

particularly those in Educational Technology programmes, are adequately prepared for the demands of the modern workforce. While digital tools and platforms are increasingly integrated into teaching and learning processes, their utilisation does not necessarily translate into the acquisition of relevant career skills. Many graduates still lack critical digital competencies required to function effectively in technology-driven work environments, suggesting a disconnect between exposure to digital technology and actual career readiness (Olaniyi et al., 2022; Ezoem et al., 2024).

Recent empirical studies have increasingly emphasized the role of digital technology skills in enhancing students' employability and career readiness in the twenty-first-century labour market. For instance, Adegbite (2024) examined the impact of digital literacy and work-integrated learning on graduate employability using a quantitative approach. The findings revealed that digital competencies significantly improved graduates' job readiness and adaptability to workplace demands. The study further established that practical exposure to digital tools enhances employability outcomes more effectively than theoretical knowledge alone. However, the study focused primarily on graduates rather than undergraduates, thereby limiting its applicability to students still in training.

Similarly, Aldemita et al. (2024) conducted a cross-sectional study to investigate the relationship between technological skills and students' readiness in the utilisation of digital applications. The findings indicated a significant positive relationship between digital skills and readiness levels, suggesting that students with higher technological competence are better prepared for digital engagement and workplace demands. Despite its relevance, the study did not specifically examine career readiness as an outcome variable, thereby leaving a gap in understanding the direct link between digital skills and employability. In another empirical study, David et al. (2024) explored the digitalisation of skill acquisition and its effect on graduate employability in business education programmes using a survey research design. The study found that the integration of digital learning tools significantly improved students' proficiency in relevant digital skills and enhanced their employability prospects. The results also showed a strong positive relationship between digital skill acquisition and career readiness. However, the study was discipline-specific to business education and did not extend its analysis to Educational Technology students.

Furthermore, Ezoem et al. (2024) investigated digital competencies required for employability among business education graduates in Nigeria. Using a descriptive survey design, the study identified key digital skills such as data analytics, cloud computing, and digital communication as essential for employment in the modern labour market. The findings highlighted that graduates with these competencies demonstrated higher levels of employability. However, the study did not examine how these skills are developed within the academic environment or their direct relationship with students' readiness for careers.

In a related study, Iro-Idoro and Jimoh (2024) examined the relationship between digital competence, assistive technology use, and academic engagement among students in selected technical and

vocational institutions. The study revealed that digital competence significantly influenced students' engagement and learning outcomes, which are critical indicators of career readiness. While the study provided valuable insights into the role of digital competence in learning, it did not directly assess its impact on career readiness. Oladele (2024) also investigated technology readiness among university students and its implications for higher education. The findings indicated that students with higher levels of technology readiness demonstrated greater confidence, adaptability, and problem-solving abilities, which are essential components of career readiness. However, the study focused more on readiness for technology use rather than its relationship with employability outcomes. In addition, Koyenikan and Anozie (2024) examined the career readiness of final-year students in tertiary institutions in Southwest Nigeria. The study found that many students lacked essential skills required for employment, particularly in the area of digital competence. The authors concluded that insufficient integration of digital skills into the curriculum contributes significantly to graduate unemployment. However, the study did not explore the role of digital technology utilisation as a predictive factor for career readiness.

Empirical evidence from international contexts further supports the importance of digital technology in enhancing career readiness. Shonhe et al. (2023) investigated the utilisation of Fourth Industrial Revolution (4IR) technologies in higher education institutions using a case study approach. The findings revealed that the integration of advanced technologies such as virtual learning environments, artificial intelligence, and blockchain significantly enhanced students' preparedness for the digital workforce. Nevertheless, the study was conducted outside Nigeria, raising concerns about contextual applicability. Similarly, Nair (2023) examined the impact of technology integration in the classroom on students' career outcomes. The study found that students exposed to digital learning environments demonstrated improved critical thinking, communication, and problem-solving skills, all of which are essential for career readiness. However, the study adopted a generalised approach and did not focus on specific academic disciplines.

Brewer (2023) also highlighted the importance of employability skills in enhancing career readiness among youth. Using a policy-oriented analytical framework, the study identified digital literacy, adaptability, and problem-solving skills as key drivers of employability in the modern workforce. While the study provided a comprehensive overview of employability skills, it lacked empirical data specific to university students. Despite the growing body of empirical literature, several gaps remain evident. First, many studies have examined digital skills and employability independently without establishing a direct empirical relationship between digital technology utilisation and career readiness. Second, a significant number of studies are either conducted outside Nigeria or focus on disciplines other than Educational Technology, thereby limiting their contextual relevance. Third, few studies have specifically identified the range of digital technology skills required for Educational Technology students, who are expected to be at the forefront of digital innovation.

Therefore, while existing studies provide substantial evidence on the importance of digital skills and technology integration, there is a need for a context-specific empirical investigation that examines both the required digital technology skills and the relationship between digital technology utilisation and career readiness among Educational Technology students in Nigerian universities. This study seeks to fill this gap by providing empirical evidence from Tai Solarin University of Education.

Furthermore, although existing studies have highlighted the role of digital skills in improving employability, there is limited empirical evidence on the specific digital technology skills required for Educational Technology students and how these skills influence their readiness for the labour market within the Nigerian context. In addition, the nature and strength of the relationship between digital technology utilisation and career readiness among these students remain insufficiently explored. This gap raises important questions about whether the current educational practices in higher institutions are effectively equipping students with the competencies needed to thrive in a rapidly evolving digital economy.

It is on this premise that this study seeks to address these gaps by examining both the specific digital technology skills required for career readiness and the relationship between digital technology utilisation and career readiness among Educational Technology students. Specifically, the study is guided by the following objectives:

1. identify the digital technology skills required for career readiness among Educational Technology students;
2. determine the relationship between digital technology utilisation and career readiness among Educational Technology students.

In line with these objectives, the study is guided by the following research question:

1. What are the digital technology skills required for career readiness among Educational Technology students?

The following null hypothesis was formulated and tested at the 0.05 level of significance:

H₀₁: There is no significant relationship between digital technology utilisation and career readiness among Educational Technology students.

Methodology

This study adopted a descriptive survey research design. This design was considered appropriate because it enabled the researcher to collect data from a defined population and describe the relationship between digital technology utilisation and career readiness among Educational

Technology students without manipulating any variables. The population of the study comprised 1,076 undergraduate students in the Department of Educational Technology, Tai Solarin University of Education, during the 2024/2025 academic session. The population distribution was obtained from the departmental records and consisted of 309 students in 100 level, 321 in 200 level, 190 in 300 level, and 256 in 400 level.

The sample size for the study was 256 students drawn from the 400 level class. A total enumeration sampling technique was employed to include all final-year students in the study. This approach was considered appropriate because the population of 400 level students was manageable and homogeneous. In addition, final-year students are assumed to have had sufficient academic exposure, including engagement with digital technologies and career-related experiences, making them suitable for assessing career readiness.

Data for the study were collected using a researcher-developed instrument titled *Digital Technology Utilisation and Career Readiness Questionnaire (DTUCRQ)*. The instrument was developed based on insights from existing literature on digital skills and career readiness (Aldemita et al., 2024; Ezoem et al., 2024; David et al., 2024). The questionnaire consisted of two sections: Section A elicited information on the demographic characteristics of the respondents, while Section B contained items measuring digital technology skills and career readiness. The items were structured on a four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD).

The instrument was subjected to face and content validity by three experts in the Department of Educational Technology and Measurement and Evaluation to ensure that the items were relevant, clear, and adequately covered the constructs under study. Their suggestions and corrections were incorporated into the final version of the instrument.

To establish the reliability of the instrument, a test–retest method was employed. The instrument was administered to 20 undergraduate students from the Departments of Educational Management and Test and Measurement in Tai Solarin University of Education, who were not part of the main study population. The responses obtained were analysed using Pearson Product Moment Correlation (PPMC), which yielded a reliability coefficient of 0.87, indicating that the instrument was reliable for the study. Data were collected through direct administration of the questionnaire by the researcher with the assistance of trained research aides. This ensured a high response rate and proper guidance for respondents where necessary. For data analysis, mean and standard deviation were used to answer the research question, while Pearson Product Moment Correlation (PPMC) was used to test the null hypothesis at the 0.05 level of significance.

Results

Research Question 1:

What are the digital technology skills required for career readiness among Educational Technology students?

Table 1

Mean and Standard Deviation of Digital Technology Skills Required for Career Readiness

S/N	Digital Technology Skills	Mean	SD
1	Data analysis skills	2.62	0.83
2	User experience design skills	2.97	0.80
3	Cybersecurity skills	2.53	0.80
4	Artificial intelligence skills	2.70	0.80
5	Digital marketing skills	2.55	0.90
6	Social media skills	2.57	0.86
7	Search engine optimisation skills	2.84	0.84
8	Cloud computing skills	2.97	0.90
9	Blockchain skills	2.67	0.80
10	Computer graphics skills	2.70	0.83
	Cluster Mean	2.71	

Decision Rule: Mean \geq 2.50 = Accepted

Source: Field Survey, 2025

Interpretation

Table 1 presents the mean and standard deviation scores of respondents on digital technology skills required for career readiness. The results show that all the listed digital skills have mean values above the benchmark of 2.50, indicating that they are considered essential for career readiness among Educational Technology students. The cluster mean of 2.71 further confirms that, on average, respondents agreed that digital technology skills such as data analysis, user experience design, cybersecurity, artificial intelligence, digital marketing, social media, search engine optimisation, cloud computing, blockchain, and computer graphics are critical for enhancing career readiness.

Hypothesis Testing

H₀₁: There is no significant relationship between digital technology utilisation and career readiness among Educational Technology students.

Table 2

Pearson Correlation Analysis of Digital Technology Utilisation and Career Readiness

Variables	Mean	SD	df	r-value	p-value
Career Readiness	48.85	20.17			
Digital Technology	19.62	16.74	254	0.643	0.001
Level of				Significance:	0.05

Source: Field Survey, 2025

Interpretation

Table 2 shows the results of the Pearson Product Moment Correlation analysis examining the relationship between digital technology utilisation and career readiness among Educational Technology students. The result indicates a correlation coefficient of $r = 0.643$, which signifies a moderate positive relationship between the two variables. The p-value of 0.001 is less than the 0.05 level of significance, indicating that the relationship is statistically significant.

Based on this result, the null hypothesis is rejected. This implies that there is a significant relationship between digital technology utilisation and career readiness among Educational Technology students. In other words, increased utilisation of digital technology is associated with higher levels of career readiness.

Discussion of Findings

The findings of this study clearly establish that digital technology skills are critical for enhancing career readiness among Educational Technology students. This study argues that in the contemporary labour market, career preparedness extends beyond theoretical knowledge to the acquisition of practical and advanced digital competencies. The identification of skills such as data analysis, user experience design, cybersecurity, artificial intelligence, digital marketing, social media management, search engine optimisation, cloud computing, blockchain, and computer graphics indicates that students recognise the multidimensional nature of employability in a technology-driven world. This suggests that Educational Technology students are increasingly aware that proficiency in diverse digital skills significantly improves their chances of securing and sustaining employment.

This position is strongly supported by Adegbite (2024), who found that digital competencies enhance graduates' adaptability and readiness for workplace demands. Similarly, Ezoem et al. (2024) identified digital skills such as data analytics and cloud computing as essential requirements for employability in modern labour markets. The present study therefore reinforces the growing consensus that digital proficiency is a fundamental determinant of career success in the twenty-first century. More importantly, this finding extends existing knowledge by demonstrating that these

competencies are not only relevant at the graduate level but are already recognised as essential by students still undergoing training.

Furthermore, the study establishes that there is a significant positive relationship between digital technology utilisation and career readiness among Educational Technology students ($r = 0.643$, $p < 0.05$). This finding suggests that the extent to which students engage with and utilise digital technologies directly influences their level of preparedness for the labour market. In other words, mere access to digital tools is insufficient; it is the effective and consistent utilisation of these technologies that enhances career readiness. This underscores the argument that experiential learning through digital engagement plays a crucial role in developing employability skills.

This finding aligns with David et al. (2024), who reported that digital skill acquisition significantly improves employability outcomes among students. In the same vein, Aldemita et al. (2024) found that higher levels of technological competence are associated with improved readiness for digital engagement and workplace performance. The present study builds on these findings by providing empirical evidence that digital technology utilisation is not just beneficial but a significant predictor of career readiness among Educational Technology students within the Nigerian context.

In addition, the result supports the position of Shonhe et al. (2023), who emphasised that the integration of Fourth Industrial Revolution technologies into education enhances students' preparedness for the evolving labour market. The implication is that students who actively engage with emerging technologies are better equipped with transferable skills such as critical thinking, problem-solving, adaptability, and innovation. These competencies are increasingly recognised as essential attributes for success in modern workplaces.

However, this finding contrasts with the concerns raised by Olaniyi et al. (2022), who reported a persistent mismatch between graduates' skills and labour market requirements. The divergence may be attributed to recent improvements in the integration of digital technologies within educational programmes, particularly in fields such as Educational Technology where students are more exposed to digital tools and applications. It may also suggest a gradual shift from theory-based instruction to more practice-oriented learning approaches.

Overall, this study demonstrates that digital technology utilisation plays a pivotal role in shaping students' career readiness. It establishes that active engagement with digital tools not only enhances technical competence but also fosters essential employability skills required in the modern workforce. The study therefore contends that higher institutions must move beyond mere provision of digital resources to ensuring their effective utilisation through curriculum integration, practical training, and continuous skill development initiatives.

Conclusion

This study concludes that digital technology utilisation is a significant determinant of career readiness among Educational Technology students. The findings have demonstrated that students who possess and actively utilise a broad range of digital competencies including data analysis, user experience design, cybersecurity, artificial intelligence, digital marketing, and cloud computing are better positioned to meet the demands of the contemporary labour market.

The study further establishes that effective utilisation of digital technology goes beyond mere access to digital tools; it requires purposeful engagement that translates into the development of practical, transferable skills. The significant positive relationship observed between digital technology utilisation and career readiness confirms that students' interaction with digital technologies plays a critical role in shaping their employability outcomes. Importantly, this study contributes to the growing body of knowledge by providing empirical evidence from the Nigerian context, specifically among Educational Technology students, a group expected to be at the forefront of digital innovation. It affirms that integrating relevant digital skills into academic training is essential for bridging the gap between university education and labour market expectations. In sum, the study underscores the need for higher education institutions to prioritise not only the provision of digital infrastructure but also the effective integration and utilisation of digital technologies in teaching and learning to enhance students' career readiness in an increasingly technology-driven world.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Integration of Digital Skills into Curriculum

Universities should systematically integrate relevant digital technology skills such as data analysis, artificial intelligence, cybersecurity, user experience design, and cloud computing into the Educational Technology curriculum. This directly addresses the study's finding that these competencies are essential for career readiness.

2. Emphasis on Practical and Experiential Learning

Lecturers and academic departments should adopt practice-oriented teaching approaches that promote active utilisation of digital technologies through project-based learning, simulations, and real-world tasks. This is necessary given the study's finding that utilisation, not mere access, significantly influences career readiness.

3. Provision and Effective Use of Digital Infrastructure

University management should not only invest in up-to-date digital infrastructure but also ensure that these facilities are actively utilised by students through structured academic

activities. This aligns with the established significant relationship between digital technology utilisation and career readiness.

4. Capacity Building for Lecturers

Institutions should organise continuous professional development programmes for lecturers to enhance their competence in emerging digital technologies. This will enable them to effectively facilitate students' acquisition and utilisation of relevant digital skills.

5. Industry–Academic Collaboration

Universities should strengthen partnerships with industry stakeholders to provide students with opportunities for internships, digital projects, and exposure to current technological practices. This will help bridge the gap between academic training and labour market expectations identified in the study.

6. Student Engagement and Self-Development

Students should be encouraged to take personal responsibility for developing their digital competencies by engaging with online learning platforms, certifications, and emerging technologies. This supports the finding that active utilisation enhances career readiness.

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