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Integration of Digital Literacy in Universities' Curricula and its Implication for Career Readiness among Students in Arusha Region, Tanzania

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Abstract: *This study assessed the integration of digital literacy in universities' curricula and its implication for career readiness among universities students in Arusha region. The specific objectives were to assess the extent to which digital literacy is integrated in universities curricula for student's career readiness and to investigate the contribution of digital literacy in enhancing universities' students' career readiness and employability skills. Technological Pedagogical Content Knowledge guided the study. A mixed-methods design was employed. The target population of 1204 included four universities with 1,000 third-year students, 200 course instructors and four digital literacy experts. A sample size of 124 was selected comprising of 100 students, 20 course instructors and four digital literacy experts. Simple random and purposive sampling techniques were used to select respondents. Data were collected through questionnaires and interview guides. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically. Validity was ascertained through content validity and reliability was tested and coefficients of 0.82 for course instructors and 0.73 for universities students' questionnaires was generated using SPSS version 25 confirming the reliability of instruments. Findings revealed that digital literacy enhances students' ability to work with technological tools in their chosen field. The study concluded that digital literacy should be effectively integrated into universities' curricula to better prepare students for career readiness and employability. It is recommended that universities should invest in most current digital tools and course instructors should put efforts in teaching process that is practical and based on effective digital literacy training.*

Keywords*: Digital, Literacy, Career, Curricula, Universities, Tanzania*

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1. Introduction

Digital literacy involves effectively utilizing digital technolo10gies and tools, such as foundational computer skills, software proficiency, internet and social media navigation (Ordonez et al., 2020). Digital Literacy has become crucial in contemporary higher education encompassing various competencies such as basic computer skills, information literacy, media literacy, critical thinking and digital citizenship literacy (Sucipto, 2024). The acquisition of digital skills, which is among the

21st century competencies, is possible with positive attitude, skills and support from the academicians who are instructors in higher education institutions (Berber et al., 2023). Although digital literacy is widely acknowledged as vital for employability, its incorporation into university curricula remains uneven in various areas, including Tanzania (Kofi & Owusu-Acheaw, 2020).

Workplaces are gradually becoming more technologically oriented with other advancements leading to the development of new jobs and the removal of old ones (Khan et al., 2022). It is therefore important for the next generation to be prepared for the skills needed as they will need to adopt new ways of development, communication and interaction (Dewi et al., 2021). Therefore, higher Education Institutions have the responsibility to guide students to succeed in the era of digital literacy.

A study by Sucipto, (2024) in Indonesia found out that the intersection between digital literacy and career guidance in universities is critical for enhancing employability in the digital era considering the growing need for digital literacy skills. There is a strong awareness among students regarding the impact of technology on future employability that emphasizes the importance of integrating career investment resources into higher education curriculum as it fosters student's readiness for evolving at workplaces (Nababan, 2023). The integration of digital literacy initiative into Higher learning curricula has gained significant acknowledgement of transformative influence on teaching, learning and career readiness among learners. By imparting the competencies of digital literacy to universities students, it equips with more than traditional knowledge for continues learning and active participation in an information centric society aligning with the goal of preparing individual for the demand of the modern workforce (Antoniuk & zasiadivko, 2023). In the United Kingdom, a study by Jones et al., (2019) proves that integrating digital literacy into curriculum prepares students for an increasingly digital job market. However, there is a variation in Digital Literacy level across institutions in the United Kingdom (UK).

In Kenya, a study by Ibrahim (2024) asserts that, the necessity of digital literacy for education success is becoming more widely acknowledged though, obstacles such as inadequate ICT equipment makes it difficult to execute literacy. In Tanzania, the integration of digital literacy in higher education is increasingly recognized as important yet unevenly implemented. According to UNESCO (2021), digital literacy has become essential for both public and private sector employment. However, Bulugu & Nkebukwa (2024) report that while some institutions are adopting digital programmes, challenges such as limited infrastructure and insufficient lecturer training persist. In Arusha region, Mboya (2021) found that although some universities have started incorporating digital skills into their curricula, the actual teaching and application of these skills remain inadequate for meeting employer expectations. Students in rural parts of Arusha also face difficulties in accessing reliable internet and devices, which further limits their ability to acquire essential 21st-century skills. This highlights a significant gap between the digital demands of the job market and the knowledge students receive in university programmes a concern that underscores the need for focused research on the integration of digital literacy in Arusha universities' curricula and its implications for career readiness. Therefore, this study aimed to assess the extent to which digital literacy is integrated into university curricula in the Arusha region and to explore its implications for students' career readiness, thereby addressing a critical educational and economic concern.

1.1 Research Questions

The study investigated the following research questions:

1. What is the extent to which digital literacy is integrated in universities curricula for student's career readiness in Arusha region?
2. What is the contribution of digital literacy in enhancing universities 'students' career readiness and employability skills in Arusha region?

2. Literature Review

This study was guided by technological pedagogical content knowledge framework which was postulated, by Mishra and Koehler J. in 2006.

2.1 Technological Pedagogical Content Knowledge (TPACK) framework

The theory puts more emphasis on the increasing of technology integration in education. They sought to offer a more comprehensive understanding of how technology interacts with teaching] and subject knowledge (Mishra and Koehler, 2006). The Technological Pedagogical Content Knowledge framework is a model that emphasizes the integration of three key components of knowledge content, pedagogy, and technology when designing and delivering effective teaching and learning experiences.

2.1.1 Strengths of the Theory

One of its main strengths is its emphasis on the interconnectedness of these domains, ensuring that teachers don't treat technology as an isolated tool, but instead integrate it meaningfully within the context of their subject matter and teaching strategies. This holistic approach encourages teachers to not only be proficient in their subject area content knowledge and teaching methods which is pedagogical knowledge, but also in how technology can enhance and foster more effective learning experiences.

2.1.2 Application of the Theory in the Current Study

Technological Pedagogical Content Knowledge (TPACK) theory provides a framework that highlights the interconnection between technology, pedagogy and content knowledge which is crucial when integrating digital literacy into university curricula. In the context of education, the theory justifies the need for a balanced approach where educators must not only be experts in their content area but also proficient in using technology effectively and efficiently to enhance teaching and learning process. By applying technological pedagogical content knowledge, universities can design curricula that incorporate digital tools in a pedagogically sound way, ensuring that students gain both the technical skills and the contextual knowledge needed for career success.

2.2 Empirical Review

This part presents the findings of the previous researchers which are related to the Integration of Digital Literacy in University Curricula and its Implication for Career Readiness among Students based on two research questions.

2.2.1 The Extent to Which Digital Literacy Are Integrated in Universities Curricula for Student's Career Readiness

In Malaysia, a study by Khan et al., (2022) on digital literacy in higher education in the 21st century workforce involved 300 young individuals. Quantitative method was used to collect data. The study examined the drivers of digital literacy that could be taught in higher institutions and applied in current digital workplace. The study found that, Malaysia has a long-term vision that calls for sustainable and productivity-driven growth that can only be accomplished with digitally literate employees.

The study by Joshua & Apuru (2024) in North Central Nigeria focused on the influence of digital skills acquisition and the perception on employability of universities students. Correlation research design was adopted using a population of 206 accounting education students in Universities in North Central Nigeria. A structured questionnaire was developed by researchers for data collection. A reliability test of the instrument was conducted and analyzed using Cronbach's Alpha coefficient method and yielded an overall reliability coefficient of 0.86. Data generated from the use of the questionnaires was analyzed with Statistical Package for Social Sciences (SPSS) version 22. The finding revealed a strong positive influence of digital skills acquisition on perceived employability prospects of accounting education students.

In South African, a study by Mpungose (2024) on Digital Skills posts that there was the application of various interventions to enhance digital skills in teaching and learning processes in South African Universities during the Post-Covid-19 Era. This included but is not limited to training workshops, organized webinars, and seminars. The primary aim of the research was to develop other methods to address the shortage of digital skills among scholars. This research was based on a three-year qualitative interpretive study carried out at a university in South Africa, exploring a scenario where academics share their experiences on utilizing digital platforms for teaching and learning following the COVID-19 pandemic. The methods used for data generation included e-reflective activities, Zoom group discussions, and semi-structured interviews conducted one-on-one via WhatsApp. The findings show that academics' digital background becomes the barrier to having the necessary digital skills for digital curriculum delivery.

2.2.2 Contribution of Digital Literacy in Enhancing Universities' Student's Career Readiness and Employability Skills

The study conducted by Lee and Chen (2023) in South Korea examined how digital literacy contributed to university students' career readiness and employability skills. Using a longitudinal survey of 600 students, the research found that higher digital literacy was strongly linked to improved career decision-making, problem-solving, and adaptability in workplace settings. The Digital Competence Framework guided the study, demonstrating that students with advanced digital skills showed greater confidence entering the workforce. However, the study focused primarily on individual skill levels and did not investigate how digital literacy was embedded within academic curricula, limiting understanding of institutional contributions to career readiness.

In Zimbabwe, Ndlovu and Moyo (2024) investigated the contribution of digital literacy to employability among recent university graduates. Employing a mixed-methods approach with 300 graduates and 15 employers, the study revealed that graduates' digital literacy enhanced their ability to adapt to new technologies and perform effectively in professional environments. Employers emphasized digital skills as critical for employability in a competitive job market.

In Tanzania context, Nalaila et al. (2022) explores classroom support for students' acquisition of digital literacy skills for learning at the University of Dar es Salaam and Sokoine University of Agriculture in Tanzania. The paper contains qualitative data collected through questionnaires and informal discussions. The study found limited classroom support for students' digital literacy skills for learning because instructors are not prepared for it. Teaching activities that instructors implement do not reflect the attributes of digital literacy skills students should possess. Therefore, the paper challenges universities to mainstream students' digital literacy skills and train instructors to assume the skills support role. Consequently, the current study was conducted in Arusha Region exploring the integration of digital literacy in universities' curricula and its implications for student's career readiness.

3. Methodology

In this study, the convergent design was employed. This design enabled researcher to collect data using both qualitative and quantitative approach. Creswell and Creswell (2023) explained that convergent design is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the integration of qualitative and quantitative data yields additional insight beyond the information provided by either quantitative or qualitative data alone. The targeted population for this study was 1204 that included four universities with 1000 third year students, 200 course instructors and 4 digital literacy experts (TCU, 2025). Students were purposely selected because they are central to this study as they are the primary beneficiary of the curriculum and the ones who ultimately face the job market. Their perception and experience offers direct evidence on how digital literacy is being taught and applied in their academic journey. Course instructors were purposely selected because they are directly responsible for the design, delivery and assessment of the curriculum. Also they have first-hand knowledge of institutional priorities, challenges and pedagogical strategies used to integrate digital literacy in the curriculum to enhance student's readiness for the digital workforce. Lastly, digital literacy experts were purposely selected because their expertise is crucial for benchmarking university practices against global or national practices. They can assess whether the current curriculum align with the skills employers seek and offer informed opinions on how digital literacy contribute to career readiness for students.

Gay and Airasian (2021) observed that a sample of 10% to 30% of the target population is representative enough for the research study. This study involved a total of 124 respondents from 4 universities in Arusha region. Course instructors 20(10%), 4(100%) digital literacy experts and Students 100(10%). This study employed purposive sampling and simple random sampling. In this study, purposive sampling used to pick 4 digital literacy experts. The reason behind the use of purposive sampling was to collect specific data from specific people since they are very aware about what is going on about the digital literacy integration in their working stations. Course instructors and the students were selected through simple random sampling which purely is probability sampling. The justification for the choice of simple random sampling was based on instructors and students' equal chance of being selected to participate in the study.

In this study, a researcher used questionnaire and interview guide to gather information about research problem. Therefore, questionnaires and interview guide were validated by observing the face and content validity by giving them to the expert who specialized in this area of study and to the research supervisor who provided recommendations and suggestions that were taken into account by the researcher. The reliability of the instruments was assessed through a pilot study in 10% of the population that did not take part in the actual study. Research experts helped to improve content, criterion and construct validity of the research instruments in order to remove irrelevant, ambiguous and inadequate items. The reliability test was done through Cronbach's Alpha method to obtain reliability correlation coefficient for both course instructors and universities students' questionnaire that demonstrated high level of internal consistency with coefficient value of 0.82 and 0.73 respectively. According to George & Mallery (2023), since the results of the coefficient Alpha (α) value were correlated at $r > 0.5$, the instrument was considered reliable for the study. Additionally, for qualitative research instruments, reliability was ensured through trustworthiness of the study by maintaining methodological rigor, ensuring that data collection instruments and processes are clear, transparent, and capable of capturing the complexities of the research questions.

Quantitative data obtained from the questionnaire was analysed by using descriptive statistic with the help of Statistical Package for Social Science (SPSS) version 25 and data was presented in tables and charts. The qualitative data was analysed thematically along with research questions where only the main ideas of the key informants were considered alongside the research questions, and the findings were presented in narrative form supported with direct quotations. This study adhered to research ethics. For instance, before conducting the study, the researcher sought permission to conduct research. The study ensured voluntary participation and confidentiality of data collected. Also, this study avoided plagiarism as much as possible by citing and acknowledging the work done by other scholars and researchers. The materials and information of other authors were all cited and referenced using the APA 7th Edition referencing style.

4. Results and Discussion

The findings are discussed in accordance with the themes generated from the research questions that the study sought to answer.

4.1 The Extent to Which Digital Literacy is integrated in Universities Curricula for Student's Career Readiness in Arusha Region.

The first research question aimed at assessing the extent to which digital literacy is integrated in universities' curricula for students' career readiness. University students and course instructors were provided with a 5 point Likert scale having 8 statements and were requested to indicate their agreement or disagreement with each statement. Their response was then quantified to generate percentages as presented in table 1. The likert scale adopted indicated SA = strongly agree; A = agree; U = undecided; D = disagree; SD = strongly disagree while SS = percentage of student's responses and CI = percentage of course instructor's responses.

Table 1: Responses of Students (n=100) and Course Instructors (n=20) on the Extent to which Digital Literacy is integrated in Universities Curricula

	SA		A		U		D		SD	
Statements	**SS**	**CI**	**SS**	**CI**	**SS**	**CI**	**SS**	**CI**	**SS**	**CI**
University curriculum incorporates digital literacy skills in all major academic programs	47.0	15.0	37.0	70.0	7.0	5.0	7.0	10.0	2.0	0.0
There are specific courses on digital literacy	50.0	65.0	35.0	30.0	8.0	5.0	4.0	0.0	3.0	0.0
Course instructors integrate digital tools in their teaching practices	37.0	20.0	42.0	70.0	12.0	5.0	7.0	5.0	2.0	0.0
University offers adequate access to digital tools and platforms necessary for learning	33.0	5.0	37.0	20.0	15.0	25.0	5.0	40.0	10.0	10.0
The curriculum equips students with sufficient digital literacy skills required for career services	27.0	0.0	37.0	65.0	20.0	25.0	14.0	10.0	2.0	0.0
Teachers assess students' digital literacy skills as part of their academic success for career readiness	39.0	15.0	32.0	30.0	13.0	40.0	16.0	15.0	0.0	0.0
Career readiness programs at the university include a strong focus in digital literacy	30.0	25.0	40.0	50.0	19.0	15.0	9.0	10.0	2.0	0.0
Digital literacy taught at universities align swith the relevant demand of the job market	39.0	10.0	21.0	70.0	23.0	15.0	8.0	5.0	9.0	0.0

Source: field Data (2025)

The data in table 1 concerning the inclusion of digital literacy in all major academic programmes, shows that 15.0% of course instructors strongly agreed that the university curriculum incorporates digital literacy skills in all major academic programmes. In addition, 70.0% of course instructors agreed with the same while, 5.0% were

undecided. On the other hand, 10.0% of course instructors disagreed, while none of the course instructors strongly disagreed. For students, 47.0% strongly agreed that the university curriculum incorporates digital literacy skills in all major academic programs. While 37.0% of students agreed with the same. However, 7.0% of students were undecided. Only 7.0% of students disagreed and 2.0% of students strongly disagreed. These findings suggest that most students and course instructors agreed that digital literacy is integrated across academic programs. These findings imply a shared perception of digital literacy as a foundational component of university education. The findings are in agreement with Scott (2024), who observed that students recognize digital literacy as crucial for their transition into the workforce. The agreement between students and course instructors indicates that both groups perceive digital literacy as a necessary aspect of academic curricula.

During the interviews with digital literacy experts, it was also revealed that in most of the major programmes, digital literacy is integrated. This was made evident as one of the expert said;

> *Digital skills are now introduced in most core programmes in many universities. Currently, curriculum cannot afford to exclude digital competence because it is critical for academic and professional success. This shift has been determined by the growing need for graduates to use technology confidently in both academic and professional settings. Digital tools are no longer optional but necessary for effective learning* (Personal interview, 14th May, 2025).

Another expert made this evident by saying;

> *Many departments are now prioritizing digital competence to ensure students are equipped with the demands for the workforce. Digital literacy is no longer limited to IT related courses but is becoming part of various academic disciplines. Students are increasingly expected to use digital platforms for research, collaboration and communication. This helps to prepare students more effectively for the challenges they will face in the modern workplace* (Personal interview 15th May)

The responses from these experts imply that there is strong support for the integration of digital literacy within universities curricula. Their views are in clear agreement with the findings from both students and course instructors concerning the inclusion of digital literacy in all major academic programmes. This show that, large number of students and course instructors agreed that digital literacy is now a key component of academic programmes. The findings show that digital skills are now embedded in the core of many university programmes, indicating that the curriculum cannot afford to exclude digital competence due to its importance for academic and professional success. From the findings, many departments are prioritizing digital competence across various disciplines, no longer limiting it to IT related courses. This alignment between digital literacy expert opinions and quantitative research findings suggests a shared understanding of digital literacy as a foundational element of university education, essential for preparing students for both their academic journeys and future careers.

Regarding the availability of specific courses on digital literacy, the results show that 65.0% of course instructors strongly agreed that specific courses on digital literacy are offered. Also, 30.0% of course instructors agreed. Only 5.0% of course instructors were undecided. For students, 50.0% strongly agreed that specific courses on digital literacy are offered and 35.0% of students agreed. Only 8.0% of students were undecided. A smaller share, 4.0% of students disagreed that specific courses on digital literacy are offered. Meanwhile, 3.0% of students strongly disagreed. These findings suggest that most students and course instructors acknowledged the presence of dedicated digital literacy courses. These findings imply that universities are responding to the need for structured digital skill development. The findings are in agreement with Gao (2024), who emphasized that digital literacy positively influences employability when formally taught. The agreement between students and course instructors altogether indicates a common recognition of structured digital learning within academic settings.

This was further supported by the digital literacy experts whereby they acknowledged availability of special courses on digital literacy. This was made evident by one digital literacy expert who said:

> *Universities have now established specific courses focused on digital literacy. These courses are no longer optional but important parts of the curriculum designed to prepare students for a technology driven world. From what I have observed both staff and students recognize the value of having training in digital tools and practices. Institutions are responding to that need by integrating such courses*

into their curricula (Personal interview, 14th, May, 2025).

The responses from digital literacy experts indicate strong agreement with the views expressed by both students and course instructors regarding the availability of specific digital literacy courses in universities. Across all groups, there is a clear acknowledgment that such courses are not only present but are becoming a standard part of the academic curricula. This common perspective highlights a growing institutional commitment to equipping students with the digital skills necessary for success in an increasingly technological world. It suggests that universities are actively responding to the developing demands of the job market by integrating digital competencies into formal education structures. The alignment among students, course instructors, and digital literacy experts supports the broader idea that digital literacy is no longer an additional skill, but a core component of academic and professional readiness.

After the Likert scale, students and course instructors were requested to indicate the extent to which digital literacy is integrated in universities curricula for student career readiness. This was an open ended question whereby each respondent could give more than one response and also there was a possibility of one response to be given by more than one respondent. The responses were then quantified to generate percentages as presented in figure 1.

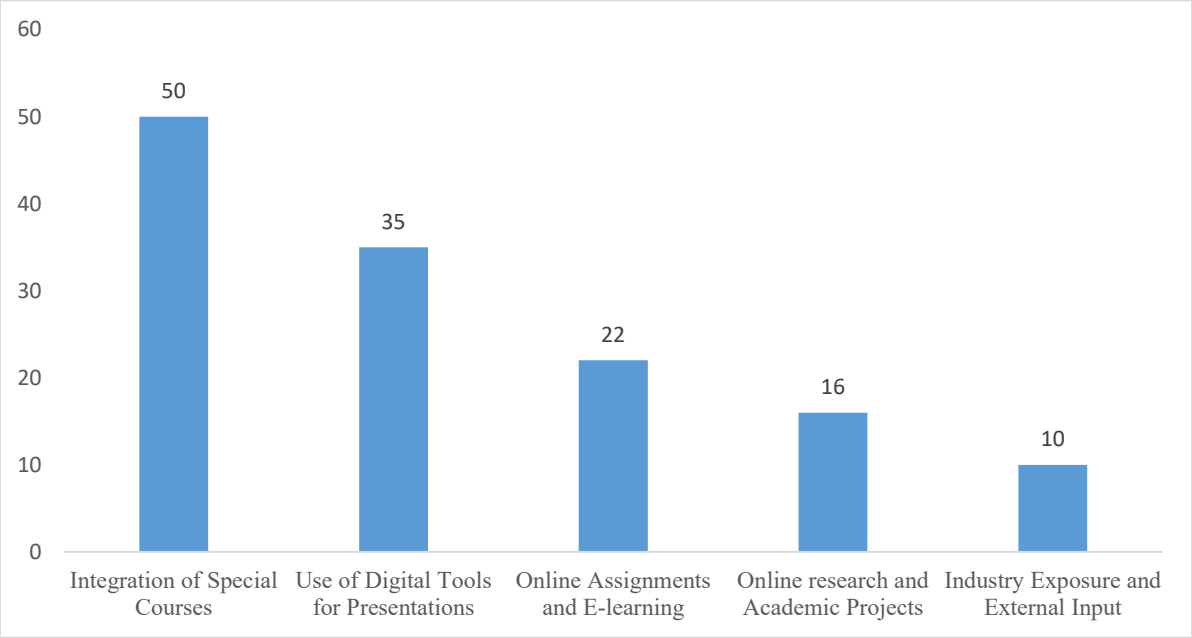

Figure 1 Students' and Course Instructor's Responses on the Extent to which Digital Literacy is Integrated in Universities Curricula for Student Career Readiness.
Source: Field Data (2025)

In figure 1, the responses from students and course instructors show that digital literacy is integrated into university curricula in various ways to support student's career readiness. About 50% indicated that special courses such as online certification programmes have been introduced to build digital competence. Another 35% mentioned the use of digital tools for presentations including platforms like Google Docs and PowerPoint which allow students to develop and demonstrate digital communication skills. Online assignments and e-learning were noted by 22% suggesting that digital platforms are being used in everyday academic tasks. Online research and academic projects were indicated by 16% showing that students are expected to use digital tools to gather analyze and present information. Industry exposure through guest lectures and similar initiatives was mentioned by 10% reflecting some level of engagement with real-world digital practices.

4.2 Contribution of Digital Literacy in Enhancing Universities 'Student's Career Readiness and Employability Skills in Arusha Region

The second research question assed the contribution of digital literacy in enhancing students' career readiness and

employability skills. The students and course instructors were provided with a 5-point Likert scale having 8 statements and requested to agree or disagree with each statement. Their responses were then quantified to generate percentages as presented in table 2. Concerning Likert scale, SA = strongly agree; A = agree; U = undecided; D = disagree; SD = strongly disagree; SS = percentage of student's responses; CI = percentage of course instructor's responses.

Table 2: Students (n=100) and Course Instructors (n=20) Responses on how digital Literacy contributes to students Career Readiness and Employability Skills.

	SA		A		U		D		SD	
	CI	SS	CI	SS	CI	SS	CI	SS	CI	SS
Training in digital literacy has increased students' employability by making them more competitive	45.0	58.0	55.0	28.0	0.0	7.0	0.0	4.0	0.0	3.0
Students are able to make digital marketing tools and social media to build a professional online presence	40.0	37.0	40.0	47.0	15.0	12.0	5.0	1.0	0.0	3.0
Students can effectively communicate and collaborate with others using digital tools	65.0	55.0	25.0	27.0	5.0	11.0	5.0	5.0	0.0	2.0
Digital literacy training enables students to adopt different work environment	20.0	48.0	70.0	35.0	5.0	14.0	5.0	2.0	0.0	1.0
Digital literacy enhances students' ability to work with technological tools in their chosen field	45.0	54.0	40.0	27.0	10.0	10.0	5.0	8.0	0.0	1.0
Resources available for technological training are sufficient	10.0	19.0	10.0	32.0	5.0	20.0	55.0	15.0	20.0	14.0
The use of digital tools in the classroom enhances students' technical skills	20.0	38.0	70.0	42.0	5.0	13.0	5.0	6.0	0.0	1.0
Digital knowledge contributes to the development of problem-solving skills which is vital for employment	30.0	41.0	65.0	37.0	5.0	10.0	0.0	10.0	0.0	2.0

Source: Field Data (2025)

Data in table 2 concerning the impact of digital literacy training on student employability by making them more competitive indicate that 45.0% of course instructors strongly agreed that training has made students more competitive and employable. Moreover, 55.0% of course instructors agreed. No course instructor expressed disagreement on the impact of digital literacy training on student employability by making them more competitive. For students, 58.0% strongly agreed that training has made students more competitive and employable. Additionally, 28.0% of students agreed. Only 7.0% of students were undecided, while disagreement was minimal with 4.0% of students disagreeing and 3.0% strongly disagreeing. These findings suggest that large number of course instructors and students recognize the contribution of digital training to employability. These findings suggest that digital literacy is regarded as a valuable asset in the job market. The findings align with MohdNong et al. (2024), who observed that digital skills significantly shape career readiness by matching the evolving labor market. The agreement between both groups altogether supports the idea that digital literacy training gives students a competitive advantage.

This was also explored during interviews with digital literacy experts where they agreed that training in digital

literacy has increased student employability by making them more competitive. This was evident as one expert said that;

> *Digital knowledge such as the use of computers, online softwares, online research and assignments we are giving students has had a significant impact on them because it equips them with skills that help them become employable in the job market* (Personal interview, 20th May, 2025).

Responses from digital literacy experts imply that digital literacy training has positive impact on student's employability. The digital literacy expert agrees with what students and teachers said that digital literacy training helps students get ready for jobs by making them more competitive. Everyone seems to agree that learning digital skills is useful and important for the workplace. The expert also said that teaching students how to use computers, online software, do research on the internet and completing assignments online give them the practical skills they need to succeed in the current job market. This suggests that digital literacy is now seen as an important part of being ready for a career readiness and employability.

Based on students' ability to use digital marketing tools and social media to build a professional presence, the data show that 40.0% of course instructors strongly agreed that digital literacy skills equip students with this ability. Furthermore, 40.0% of course instructors agreed. Meanwhile, 15.0% of course instructors were undecided. Disagreement was minimal with only 5.0% of course instructors disagreeing, while none strongly disagreed. For students, 37.0% strongly agreed that digital literacy skills equip students with the ability to use digital marketing tools and social media to build a professional presence. Also, 47.0% of students agreed while about 12.0% of students were undecided. Disagreement was minimal with 1.0% of students disagreeing and 3.0% strongly disagreeing. These findings suggest that students and instructors acknowledged the role of digital tools in shaping a professional image. Also, findings imply that students are not only learning digital tools but are also applying them in professional contexts. The findings align with Ufondi et al. (2024), who recommended that such tools be integrated into business education to enhance practical relevance. The agreement between course instructors and students altogether points to the functional application of digital literacy in career preparation.

Students' ability to use digital marketing tools and social media to build a professional presence, was further pinpointed by digital literacy experts during interview guide. Digital literacy experts showed concern about student's ability to use digital marketing and social media to build professional presence. This was made evident as one of expert said;

> *Within our universities, we have very good examples of some graduates who are now self-employed on digital business. They are able to make marketing online and use social media for their positive impact like promoting their skills and knowledge. This is enough to show that universities provide digital literacy skills for building professional presence* (Personal interview, 16th May).

The responses from digital literacy experts strongly emphasized the importance of students being able to use digital marketing tools and social media to build a professional presence. These qualitative insights align with the quantitative findings, which showed broad agreement among both course instructors and students on the value and relevance of these tools in shaping a professional image. This suggests that students are not only learning digital skills but are also applying them in practical career-oriented contexts. The findings further highlighted this by noting that some graduates are already using digital platforms successfully to promote their skills, start businesses, and establish a strong professional identity. This reflects the real-world impact of digital literacy education and its growing importance in helping students transition into the workforce.

Data regarding students' ability to communicate and collaborate effectively using digital tools indicate that 65.0% of course instructors strongly agreed that students are able to communicate and collaborate effectively using digital tools, and 25.0% agreed on the same. Moreover, 5.0% of course instructors were undecided, while 5.0% disagreed, and none strongly disagreed. For students, 55.0% strongly agreed that they are able to communicate and collaborate effectively using digital tools, and 27.0% agreed. Moreover, 11.0% of students were undecided, while 5.0% disagreed, and 2.0% strongly disagreed. These findings suggest that both course instructors and students recognized the collaborative benefits of digital literacy. Implying that communication and teamwork are essential outcomes of digital skill development. The findings are consistent with Mahundu (2024), who emphasized communication literacy as a core competence expected by employers. The agreement between students and course instructors altogether reinforces the value of digital tools in fostering workplace-ready communication.

Students' ability to communicate and collaborate effectively using digital tools has gained significance in the currently changing technological world. Most universities are trying so hard to build graduate with ability to communicate and collaborate effectively by using digital tools. This is in agreement with digital literacy experts as one of the expert said:

> *One of the aims of integrating digital literacy in universities curricular is to create individuals who can communicate effectively and collaborate effectively using digital tools. Well, we do this in our institution; we have special courses like Communication skills courses where students are given chances to make presentations by using projectors, reading online documents in front of others. So, this helps them become competent in communicating ideas and collaborating with others in work places by using email, goggle meeting, as well as conference calling* (Personal interview, 14th, May, 2025).

Response from this expert implies that developing student's communication and collaboration skills using digital tools is one among the objectives in integrating digital literacy into university curricula. This qualitative data aligns with the quantitative data where the majority of both course instructors and students expressed positive views about ability of the students to communicate and collaborate effectively using digital tools. This agreement suggests that there is a shared understanding of the importance of these skills in preparing graduates for the demands of the modern workplace. The experts mentioned practical approaches such as communication skills courses, student presentations using projectors, and engagement with digital platforms like email, online meetings, and conference calls strengthens the idea that universities are actively fostering these competencies to ensure graduates are well prepared to work in digital world.

Students and course instructors were also requested to indicate how digital literacy contributes to their career readiness. This was an open ended question whereby each respondent could give more than one response and also there was a possibility of one response to be given by more than one respondent. The responses were then quantified to generate percentages as presented in figure 2.

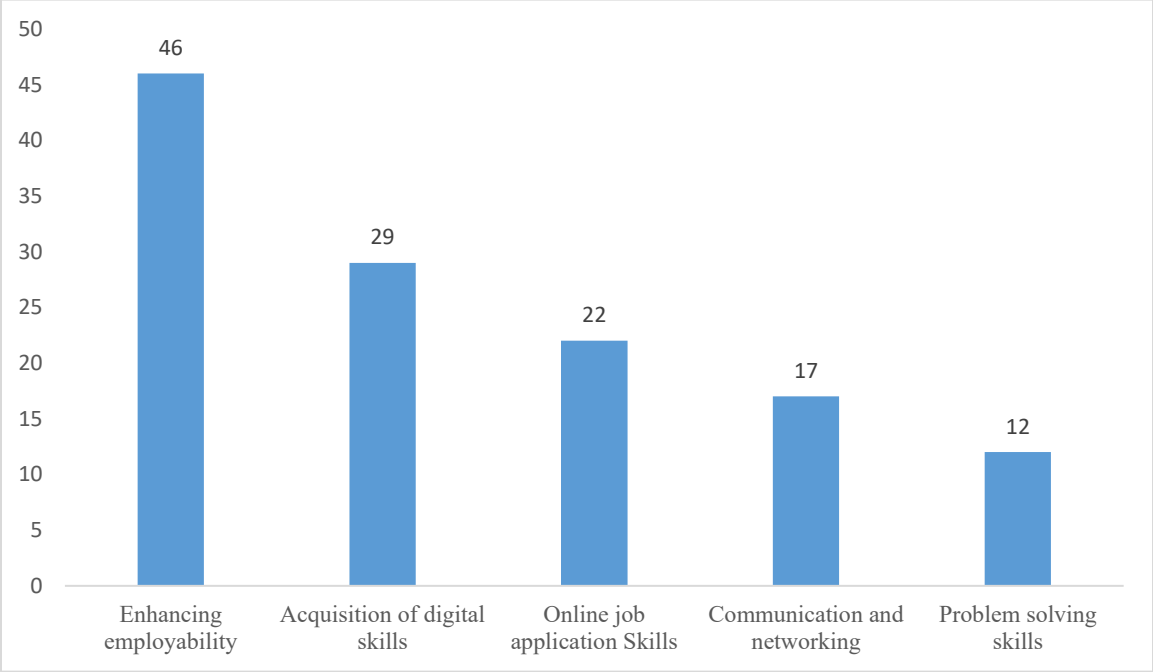

Figure 2: Students' and Course Instructor's Responses on how Digital Literacy Contributes to Career Readiness and Employability Skills
Source: Field Data (2025)

The result in figure 2 indicate responses from students and course instructors showing that integrating digital literacy into university curricula contributes to career readiness in several important ways. A total of 46% of students and

course instructors indicated that it enhances employability by helping to align students' skills with labour market needs and workplace expectations. Another 29% pointed to the acquisition of digital skills, highlighting the importance of being able to navigate digital tools and platforms in professional settings. In addition, 22% mentioned that digital literacy supports the development of skills needed to apply for jobs online, making the job search process more effective. Communication and networking were noted by 17%, suggesting that digital competence helps students interact, collaborate, and build professional connections. Finally, 12% of the respondents emphasized the role of digital literacy in fostering problem-solving abilities, which are key for adapting to changing work environments.

5. Conclusion and Recommendations

5.1 Conclusion

The study concluded that digital literacy is largely integrated in university curricula in Arusha region. This was made evident as most students and course instructors indicated the presence of digital content, use of online platforms, and application of digital tools in learning and teaching. Students highlighted their engagement with digital resources in completing assignments, conducting research, and communicating with peers and instructors. Course instructors confirmed that digital skills are integrated in course content and teaching methods across departments. Digital literacy experts acknowledged these efforts but also noted variations among institutions and pointed out that some programs lack alignment with job market needs. Such level of integrating digital literacy may support career readiness largely, as it equips students with foundational digital competencies, although further alignment with industry expectations remains necessary.

The study also concluded that digital literacy plays a significant role in enhancing students' career readiness and employability. This was made evident as both students and course instructors expressed strong confidence in the value of digital skills such as online communication, collaboration, and problem solving in the workplace. Students noted that engaging with digital tools in academic settings increased their confidence in using technology in professional environments. Course instructors emphasized that digital competence helps students adapt to changing job demands and technological advancements. Digital literacy experts supported these views by highlighting that digital literacy forms a core part of modern job requirements. Such recognition of the role of digital literacy may reflect growing awareness of the digital demands in the job market even though limited access to technology and lack of industry specific digital training could still affect students' preparedness. In addressing these challenges, investment in current and enough digital tools should be the need of nearly each higher learning institutions.

5.2 Recommendations

Based on the conclusion drawn from this study, the researcher recommends the following:

1. Universities need to invest in updated and sufficient digital tools. Also, they should conduct seminars and workshops to empower course instructors with skills on how to use digital tools during the process of teaching. This will enable students to be provided with effective digital skills that will prepare them for career readiness and become competitive in the job market. This can be done through fundraising and sponsorship programmes.
2. Course instructors need to put effort into using digital tools in teaching and the teaching process should be practical based. This will equip students with the skills needed in the job market. Course instructors can do this by providing online based assignments as well as project-based learning on specific fields of study.
3. University students have to be aware that digital skills are currently not optional but necessary skills that every graduate needs to possess as the job market is increasingly changing and it needs a technologically driven workforce. So, they should work hard on acquiring digital skills to enable them to become competitive in the world market.
4. Employers could also advise universities on the process of curriculum development to include digital tools and other necessary skills needed in the job market. This will help to produce employable graduates.

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