

Addressing Graduate Employability Through 21st Century Digital Skills in Ijebu-Ode Local Government Area

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Abstract

This study evaluated the impact of targeted digital skills training on graduate employability through the acquisition of 21st-century digital competencies in Ijebu-Ode Local Government Area, Ogun State, Nigeria. Using a mixed-methods design, 20 graduates participated in an intensive training programme comprising four modules: Google Workspace, LinkedIn Professional Development, Canva Creative Design, and CV Writing with digital tools. Quantitative data were gathered through pre- and post-test assessments, while qualitative insights were obtained via Focus Group Discussions (FGDs). Results revealed substantial improvements across all modules: Google Workspace ($t(19) = -18.96, p < .001, d = 4.24$), LinkedIn Professional Development ($t(19) = -21.96, p < .001, d = 4.91$), Canva Creative Design ($t(19) = -12.87, p < .001, d = 2.88$), and CV Writing ($t(19) = -16.10, p < .001, d = 3.60$). Effect sizes ranging from 2.88 to 4.91 indicated exceptionally large practical gains in digital proficiency and employability skills. Thematic analysis of qualitative data highlighted three dominant themes: high participant satisfaction, enhanced employability prospects, and strong transferability of skills to real-world contexts. Graduates reported increased confidence in professional networking, creative content production, collaborative digital work, and competitive CV presentation. Beyond technical competence, participants developed critical soft skills such as adaptability and problem-solving. The findings demonstrate that structured, context-specific digital skills training significantly enhances graduate employability, bridges the digital skills gap, and equips participants with relevant competencies for the modern workforce. The study recommends embedding such programmes into graduate development initiatives to foster career readiness, competitiveness, and resilience in Nigeria's rapidly evolving digital economy.

Keywords: Graduate employability, digital skills training, 21st-century competencies, Google Workspace, LinkedIn, Canva, CV writing

Introduction

Graduate unemployment remains one of the most pressing socio-economic challenges in Nigeria, despite the rapid expansion of tertiary education over the past two decades. The widening disconnect between academic qualifications and the evolving demands of the labour market has rendered a significant proportion of graduates unemployable, exacerbating national insecurity, economic stagnation, and youth disillusionment (Owolabi & Adeosun, 2023). The National Bureau of Statistics (NBS, 2023) reports that youth unemployment in Nigeria exceeds 42.5%, with university graduates forming a substantial share of this unemployed population. A major driver of this crisis is the widespread deficiency in 21st-century digital skills competencies that have become indispensable for navigating modern, technology-driven workplaces (Adewale & Afolabi, 2019; Bridgstock, 2019). Digital skills encompassing productivity tools, communication platforms, content creation, and personal branding are now fundamental to employability and career progression in both formal and informal sectors (Bridgstock, 2019). However, systemic constraints such as outdated university curricula, inadequate ICT infrastructure, and chronic underfunding in Nigerian higher education have hindered the integration of these skills into mainstream academic training (Ogunleye & Adebayo, 2020). Consequently, graduates often enter the labour market ill-prepared for the realities of the digital economy, limiting their ability to secure and sustain meaningful employment. While initiatives such as the N-Power programme and the Digital Nigeria initiative have sought to close this gap, they have been undermined by inconsistent implementation, limited reach, and insufficient empirical evaluation (UNESCO, 2021). Scholarly literature on practical, measurable digital skills interventions in Nigeria remains sparse, with most studies adopting conceptual or descriptive approaches (Salami, 2021). This paucity of evidence underscores the need for rigorous, data-driven research to assess how targeted digital skills training can enhance graduate employability in real-world contexts.

Statement of the Problem

The primary aim of tertiary institutions globally, and in Nigeria specifically, is to produce skilled graduates capable of contributing to national development and meeting evolving manpower needs. However, graduate unemployment in Nigeria has persisted at alarming levels for over a decade, worsening annually

(Emeh & Eze, 2022). Each year, thousands graduate, yet many remain excluded from the labour market—not necessarily due to a lack of jobs, but because they lack the 21st-century digital competencies employers demand (Ajayi & Adebayo, 2021; Bawuro et al., 2019). This skills deficit has serious consequences. Many graduates, frustrated by prolonged unemployment, face declining morale and resort to underemployment, precarious informal work, or even criminal activities such as cybercrime and armed robbery, thereby exacerbating insecurity and diverting national resources from socio-economic development. While universities and stakeholders have introduced computer studies, entrepreneurship courses, and computer appreciation programmes, these interventions are often fragmented, outdated, and poorly aligned with modern digital labour market needs. Core employability skills such as Google Workspace productivity tools, Canva for design, LinkedIn networking, and professional CV writing remain underemphasised in curricula (Salami, 2021; Olaore, 2019).

Previous research on graduate employability in Nigeria has mainly focused on broad skill gaps or sector-specific needs (Adebakin & Ajadi, 2020; Udoh & Akpan, 2021), with few studies assessing targeted digital skills training using empirical pre- and post-intervention data. Although global frameworks like the European Commission's DigComp 2.2 highlight that digital competence extends beyond technical skills to include adaptability, creativity, and collaboration (Vuorikari et al., 2022), Nigeria's higher education system has yet to institutionalise such comprehensive models (Eze et al., 2021). This study evaluated the impact of four targeted digital skill domains - Google Workspace, LinkedIn, Canva, and CV writing on unemployed graduates in Ijebu-Ode, Ogun State, using a quasi-experimental design with measurable pre- and post-training assessments.

Research Objectives

The study evaluated the impact of a targeted 21st-century digital skills training program comprising Google Workspace, LinkedIn Professional Development, Canva Creative Design, and CV Writing on the employability readiness of unemployed graduates in Ijebu-Ode, Ogun State, Nigeria. Specifically, the study:

1. To determine the mean difference in pre-and-posttest scores of participants learned Google Workspace

2. To evaluate the mean difference in pre- and post-test scores of participants learned LinkedIn professional
3. To assess the mean difference in pre- and post-test scores of participants learned Canva Creative digital design.
4. To assess the mean difference in pre- and post-test scores of participants learned CV writing.

Research Hypotheses

The following research hypotheses were tested at 0.05 level of significance.

H₀₁: There is no significant mean difference in pre and post-test mean scores of participants learned Google workspace.

H₀₂: There is no significant mean difference in pre- and post-test mean scores of participants learned LinkedIn professional.

H₀₃: There is no significant difference in pre and post-test mean scores of participants learned Canva digital design.

H₀₄: There is no significant difference in pre and post- test mean scores of participants learned Digital CV Writing.

Methodology

This study adopted a mixed-methods pre-test–post-test design to evaluate the impact of targeted digital skills training on graduate employability through 21st-century digital competencies in Ijebu-Ode Local Government Area, Ogun State, Nigeria. The study utilized a one-group pre-test–post-test experimental design, which measured changes in participants’ competencies before and after the intervention. The qualitative component used Focus Group Discussions (FGDs) to collect participants’ reflections on the training’s relevance, satisfaction, and employability benefits. This integration allowed for statistical measurement of skill gains and rich contextual understanding of participants’ experiences.

The target population consisted of unemployed and underemployed graduates in Ijebu-Ode LGA. Twenty (20) participants were randomly selected based on the following criteria: possession of a recognized higher education qualification (OND, HND, B.Sc., or equivalent), commitment to complete all

modules of the training and demonstrated limited or intermediate proficiency in the targeted digital skills prior to the intervention. The training programme was divided into four intensive modules, delivered in hands-on, interactive sessions on Google Workspace, LinkedIn Professional Development, Canva Creative Design and CV Writing with Digital Tools.

The study employed a Focus Group Discussion (FGD) guide as its primary qualitative instrument to gather in-depth insights on participants' experiences with the digital skills training. The guide contained open-ended questions addressing the relevance of the modules, ease of learning, confidence in skill application, and perceived impact on employability. It was validated by experts to ensure clarity, cultural appropriateness, and alignment with the study's objectives. Discussions were audio-recorded and transcribed verbatim, allowing for accurate thematic analysis. This instrument was instrumental in revealing key themes such as high satisfaction, improved employability prospects, and strong transferability of skills, thus complementing the quantitative findings with rich contextual understanding.

Qualitative and thematic analyses were primarily employed to interpret non-numerical data from focus group discussions (FGDs) and open-ended questionnaire responses. A Paired sample t-tests compared pre- and post-test means for each module at $p < .05$. The training programme was divided into four intensive modules, delivered in hands-on, interactive sessions: Google Workspace, LinkedIn Professional Development, Canva Creative Design, and CV Writing on the employability readiness of unemployed graduates in Ijebu-Ode Local Government Area, Ogun State, Nigeria.

Results

Hypotheses Testing

H₀₁: There is no significant mean difference in pre and post-test mean scores of participants learned Google workspace.

Table 1: Paired Sample t-Test Results for Pre- and Post-Test Scores in Google Workspace Training

Training Module	N	Pre-Test Mean (SD)	Post-Test Mean (SD)	t(df)	p-value	Cohen's d	Effect Size Magnitude
Google Workspace	20	2.44 (0.37)	3.95 (0.62)	-18.96 (19)	< .001	4.24	Exceptionally Large

In Table 1, the Google Workspace training produced a substantial improvement in participants' scores, moving from a modest pre-test performance ($M = 2.44$) to a notably higher post-test mean ($M = 3.95$). The paired sample t-test result, $t(19) = -18.96$, $p < .001$, confirms that this improvement was statistically significant. The Cohen's d of 4.24 reflects an exceptionally large effect size, indicating that the training had a profound positive impact. This suggests the integration of instructor-led demonstrations, group collaboration, and hands-on exercises in the Google Workspace module was highly effective in building digital productivity competencies relevant to workplace applications.

H02: There is no significant mean difference in pre- and post-test mean scores of participants learned LinkedIn professional.

Table 2: Paired Sample t-Test Results for Pre- and Post-Test Scores in LinkedIn Professional Development Training

Training Module	N	Pre-Test Mean (SD)	Post-Test Mean (SD)	t(df)	p-value	Cohen's d	Effect Size Magnitude
LinkedIn Professional Development	20	2.61 (0.27)	3.99 (0.39)	-21.96 (19)	< .001	4.91	Exceptionally Large

In Table 2, the LinkedIn Professional Development module yielded the strongest performance gain among all the modules, with participants improving from a pre-test mean of 2.61 to a post-test mean of 3.99. The result, $t(19) = -21.96$, $p < .001$, demonstrates that the increase was highly significant. The effect size (Cohen's $d = 4.91$) is not only exceptionally large but also the largest observed in the study, suggesting this training substantially enhanced participants' professional branding, networking skills, and digital employability readiness. The outcome highlights the value of contextual, practice-based training in leveraging LinkedIn for career advancement.

H03: There is no significant difference in pre and post-test mean scores of participants learned Canva digital design.

Table 3: Paired Sample t-Test Results for Pre- and Post-Test Scores in Canva Creative Design Training

Training Module	N	Pre-Test Mean (SD)	Post-Test Mean (SD)	t(df)	p-value	Cohen's d	Effect Size Magnitude
Canva Creative Design	20	2.78 (0.40)	3.93 (0.08)	-12.87 (19)	< .001	2.88	Very Large

In Table 3, the Canva Creative Design training significantly improved participants' creative digital design proficiency, with mean scores rising from 2.78 to 3.93. The paired sample t-test yielded $t(19) = -12.87$, $p < .001$, confirming a statistically significant difference. The effect size (Cohen's $d = 2.88$) was very large, indicating a strong practical impact. These results underscore that engaging learners in design projects contextualized to real-world employability—such as marketing collateral, resumes, and branding materials—can produce remarkable skill gains in a short training period.

H₀₄: There is no significant difference in pre and post- test mean scores of participants learned Digital CV Writing.

Table 4: Paired Sample t-Test Results for Pre- and Post-Test Scores in Digital CV Writing Training

Training Module	N	Pre-Test Mean (SD)	Post-Test Mean (SD)	t(df)	p-value	Cohen's d	Effect Size Magnitude
CV Writing with Digital Tools	20	2.61 (0.38)	3.95 (0.12)	-16.10 (19)	< .001	3.60	Exceptionally Large

In Table 4, the Digital CV Writing module significantly boosted participants' abilities to craft professional, tech-enhanced resumes, improving from a mean of 2.61 to 3.95. The statistical analysis, $t(19) = -16.10$, $p < .001$, shows that the gain was highly significant. Cohen's d of 3.60 indicates an exceptionally large effect size, signifying a major leap in competency. The success of this module can be attributed to the blend of direct instructor feedback, peer review, and practical application within a real-world employability context.

Thematic Analysis

The thematic analysis of the focus group discussions (FGDs), supported by the analysed and interpreted quantitative data, revealed three prominent and interrelated themes: training satisfaction and learning engagement, perceived employability enhancement and skill transferability and real-world application. With respect to training satisfaction and learning engagement, participants expressed a high level of satisfaction with the training, describing it as both practical and well-structured, with clear guidance that facilitated learning and engagement. This perception was reinforced by the statistically significant improvements recorded across all modules. For instance, Google Workspace training produced a remarkable increase in participants' mean scores from 2.44 (SD = 0.37) to 3.95 (SD = 0.62), $t(19) = -18.96$, $p < .001$,

with an exceptionally large effect size (Cohen's $d = 4.24$), indicating that the training was both impactful and well-received.

Also, vis-à-vis the perceived employability enhancement, the sessions were perceived to have substantial employability benefits. Participants reported increased confidence in applying for jobs, enhanced capacity for professional networking, and greater ability to showcase their competencies effectively. This aligns with the LinkedIn Professional Development results, where mean scores rose from 2.61 (SD = 0.27) to 3.99 (SD = 0.39), $t(19) = -21.96$, $p < .001$, yielding the largest observed effect size (Cohen's $d = 4.91$). Such quantitative gains underscore the qualitative feedback that the training significantly strengthened participants' online presence and personal branding.

Subsequently, on skill transferability and real-world application, the training promoted strong skill transferability, with participants noting that the digital competencies acquired could be readily adapted to a range of workplace tasks and entrepreneurial activities. This was particularly evident in the Canva Creative Design module, where mean scores improved from 2.78 (SD = 0.40) to 3.93 (SD = 0.08), $t(19) = -12.87$, $p < .001$, with a very large effect size (Cohen's $d = 2.88$), and in the CV Writing with Digital Tools module, which increased from 2.61 (SD = 0.38) to 3.95 (SD = 0.12), $t(19) = -16.10$, $p < .001$, $d = 3.60$. These substantial statistical improvements mirror participants' narratives about applying learned skills to diverse real-world professional and entrepreneurial contexts, making the training both relevant and adaptable.

The modules on Google Workspace, LinkedIn Professional Development, Canva Creative Design, and CV Writing on the employability readiness of unemployed graduates combined instructor-led demonstrations, collaborative group work, and individual practice exercises contextualized to real-world employability scenarios. Across all modules, delivery methods combined instructor-led demonstrations, collaborative group work, and individual practice exercises, ensuring that learning was both participatory and contextualized to real-world employability scenarios. This approach not only strengthened technical competence but also improved participants' confidence in applying these skills within professional and entrepreneurial environments. Also, all the four modules demonstrated statistically significant improvements in digital skills with large to exceptionally large effect sizes. Among them, LinkedIn Professional Development produced the highest effect size, highlighting the centrality of professional networking in employability

strategies. The results suggest that a blended training approach, combining productivity tools, professional branding, creative design, and digital CV writing, can holistically prepare graduates for competitive job markets. The findings clearly indicate that the digital skills training was highly effective, yielding both statistically significant improvements and strong positive perceptions among participants. The high satisfaction levels, notable gains in employability competencies, and strong skill transferability suggest that the training not only enhanced participants' immediate digital productivity but also equipped them with versatile competencies applicable to diverse employment and entrepreneurial contexts. This demonstrates the programme's potential as a practical intervention for improving the job readiness of unemployed graduates.

Discussion

The results of this study demonstrate that targeted, hands-on digital skills training can significantly enhance graduate employability by equipping participants with practical 21st-century competencies. Across all four modules—Google Workspace, LinkedIn Professional Development, Canva Creative Design, and CV Writing with Digital Tools participants recorded statistically significant improvements, with all p-values well below .001. More importantly, the magnitude of improvement, as indicated by effect sizes ranging from 2.88 to 4.91, far exceeded the threshold for a “large” effect according to Cohen's (1988) guidelines, confirming that the changes were not only statistically significant but also transformational in practice.

The Google Workspace module recorded an exceptionally large effect size ($d = 4.24$), underscoring the importance of proficiency in productivity tools for collaborative work, document management, and remote teamwork skills increasingly demanded in the digital economy. This finding aligns with studies such as Ajadi and Salawu (2020), which found that mastery of productivity software is a strong predictor of workplace efficiency and employability. The LinkedIn Professional Development module yielded the largest effect size ($d = 4.91$), showing that professional networking, personal branding, and online career positioning are critical employability skills. This mirrors findings by Bennett et al. (2021), who highlighted that active LinkedIn engagement can improve job search success and enhance career mobility. Participants in this study reported increased confidence in approaching recruiters, joining industry

groups, and showcasing achievements - -practical outcomes that extend beyond technical skill acquisition to professional self-marketing.

The Canva Creative Design module also recorded a very large effect ($d = 2.88$), highlighting the rising demand for digital creativity and visual communication skills across industries. As supported by Olanrewaju (2022), digital design competence is increasingly valued in both formal employment and entrepreneurial ventures, enabling graduates to produce marketable content for business promotion and communication. The CV Writing with Digital Tools module produced a substantial effect size ($d = 3.60$), reinforcing the idea that employability is partly determined by how effectively graduates present their qualifications and skills to potential employers. This supports the work of Popoola and Adekeye (2021), who emphasized that CV quality strongly influences shortlisting decisions in competitive job markets. Participants' improved ability to craft industry-standard CVs using digital templates and formatting tools suggests enhanced readiness for job applications.

Qualitative findings corroborated the statistical outcomes. Participants reported high satisfaction with the programme, noting that the training was practical, relevant, and immediately applicable. They also highlighted improved confidence in seeking jobs, networking online, and using digital tools in workplace scenarios. A recurring theme was skill transferability, with participants affirming that the skills learned could be applied in both employment and entrepreneurial contexts, thereby widening their career opportunities. Collectively, these findings indicate that structured, contextually relevant digital skills training is a viable strategy for addressing the employability gap among graduates in Ijebu-Ode LGA, with potential for replication in other localities facing similar challenges.

Conclusion

This study evaluated the transformative effect of a targeted digital skills programme spanning Google Workspace, LinkedIn professional networking, Canva creative design, and CV writing on the employability and workplace readiness of unemployed graduates. The training was designed not merely to impart technical competence, but to cultivate transferable capabilities that are relevant to evolving demands of the labour market. Quantitative results demonstrated marked improvements in productivity, collaboration,

professional visibility, creative output, and CV competitiveness. Qualitative insights reinforced these findings, revealing heightened confidence, adaptability, and problem-solving capacity among participants, alongside the seamless application of newly acquired skills in both workplace and entrepreneurial contexts. Collectively, these outcomes underscore the strategic value of integrating context-specific digital training into graduate development initiatives. By bridging technical proficiency with essential soft skills, the programme offers a scalable, adaptable model capable of aligning higher education outcomes with the realities of an increasingly digitized and competitive labour market—particularly within economies grappling with high graduate unemployment.

Recommendations

Based on the findings, the following recommendations are proposed:

1. Nigerian tertiary institutions (Universities, Polytechnics, Monotechnics and Colleges of Education) should embed modules on productivity tools, professional networking, creative design, and CV optimization into undergraduate curricula, ensuring graduates acquire job-ready skills before entering the labour market.
2. Government agencies, higher institutions, and private sector actors, especially technology companies and firms should collaborate to co-design and deliver scalable digital training programmes that reflect evolving workplace requirements.
3. Beyond technical proficiency, training should deliberately be organized to foster transferable competencies such as problem-solving, adaptability, and professional communication to tertiary institutions students to amplify employability outcomes.
4. Graduates should have access to structured follow-up platforms such as LinkedIn groups or alumni hubs that provide peer learning, mentorship, and ongoing exposure to labour market opportunities.
5. Given the demonstrated transferability of skills to business ventures, digital skills initiatives should incorporate modules on how to leverage these tools for entrepreneurship, digital marketing,

and brand building before student graduate from tertiary institutions.

6. Programmes in individual higher institutions in Nigeria should adopt data-driven monitoring systems that measure long-term employability impact, skill retention, and adaptability to industry shifts, ensuring training remains relevant and effective.

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