

Assessment of Digital Literacy Skills on Autonomous Learning Practices among Undergraduate Students of Ahmadu Bello University, Zaria, Kaduna State.

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Abstract

In today's digital age, the integration of digital literacy skills into English as a Second Language (ESL) education has transformed the way learners acquire and engage with language. This research explores the extent to which digital literacy skills can serve as a catalyst for fostering autonomous learning practices among 100 level ESL students. Autonomous learning skills, characterized by learner independence, self-regulation, and motivation, has become increasingly relevant in educational discourse, especially with the widespread adoption of digital tools and platforms. Digital literacy skills encompass the skills and competencies required to effectively use digital technologies, including information retrieval, communication, collaboration, and content creation. Through a descriptive survey design, involving questionnaire, the study evaluates the difference in digital literacy skills levels and their autonomy in language learning practices between ESL students'. The population of the study are all undergraduate ESL students in the Faculty of Education, Ahmadu Bello University Zaria with a total of 121 as at 2024/25 academic session. The sample used in this study were forty 100Level students. The instrument was validated, pilot tested and the reliability coefficient of 0.86 and 0.92 were obtained using Cronbach's alpha. Two research questions and two null hypotheses were formulated and tested using means and standard deviations and one-sample t-test. The findings revealed that there was a significant difference in the Digital Literacy Skills and Autonomous Learning Practices of 100 level ESL. The research concludes by recommending strategies for educators to scaffold digital literacy skills and improved Autonomous learning practices in a way that empowers ESL learners to become proactive, self-directed learners.

Keyword: Digital literacy, Learning, Technology, Language Education

Introduction

The 21st century has ushered in a new era of teaching and learning, driven by rapid advancements in digital technology. In the realm of English as a Second Language (ESL) education, the traditional teacher-centered model is being reshaped by learner-centered, technology-supported environments. Central to this transformation is the concept of digital literacy skills the ability to effectively and responsibly use digital tools to access, evaluate, create, and communicate information. With the growing digitalization of educational resources, digital literacy skills are no longer optional; they have become an essential component of modern language education.

Autonomous learning refers to a learner's capacity to take responsibility for their own learning journey. This involves goal-setting, self-monitoring, and reflecting on learning outcomes. Research has consistently demonstrated that learners who exhibit autonomous behavior are more likely to persist in language learning, achieve better results, and transfer skills across contexts (Little, 2007; Benson, 2021). In ESL classrooms, autonomy is especially critical due to the diverse needs, backgrounds, and language proficiencies of learners. When digital literacy skills are effectively integrated into instruction, they empower learners with the tools and confidence to pursue learning beyond the classroom.

Despite growing interest in digital and autonomous learning, the link between these two educational constructs in the context of ESL remains underexplored. While many ESL students are digital natives, this does not automatically equate to digital literacy skills. Without intentional guidance and structured learning environments, students may struggle to use digital tools productively for language acquisition. This study addresses this gap by examining how digital literacy skills can be a catalyst

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for autonomous learning in the ESL classroom. It aims to identify which aspects of digital competence most significantly influence learner independence, and how educators can support the development of both. This is particularly important in a post-pandemic era, where remote and blended learning have become central to educational delivery. Understanding this relationship will contribute to more effective pedagogical strategies that align with the digital realities of today's ESL learners.

Defining Digital Literacy Skills

Digital literacy is “the set of social practices required to meaningfully engage with digital technologies in varied contexts, critically assessing and creating content rather than simply consuming it.” (Pangrazio & Sefton-Green, 2021). Recent definitions have evolved to reflect technological advancements and the multidimensional nature of digital literacy. Ng (2012) expands this to include cognitive, technical, and social-emotional dimensions, acknowledging that digital literacy skills involve more than mere technical competence. More recently, van Laar et al. (2020) emphasize the inclusion of critical thinking, problem-solving, and collaboration as integral to digital literacy in educational contexts.

Digital Tools and Learner Autonomy in ESL Education

In language education, digital tools offer numerous affordances for learner autonomy. It emphasizes critical engagement with digital content and independent learning practices essential for second language acquisition. According to Eshet-Alkalai and Chajut (2021) stated that digital literacy entails the integration of cognitive, technical, and critical literacy skills needed for learners to navigate and produce digital texts such as e-books, online articles, videos, and interactive narratives while engaging in ethical and thoughtful communication in virtual academic and social spaces. Benson (2021) identifies autonomy as both a psychological and practical construct, nurtured through access to tools that allow learners to take control of their learning paths. Blogs, online portfolios, and e-learning platforms are particularly instrumental in enabling learners to self-regulate, reflect, and evaluate their progress. Reinders and White (2011) contend that technology-facilitated environments promote self-directed learning by offering flexible, goal-oriented tools. However, they caution that autonomy does not arise automatically; structured support and digital literacy skills training are essential. Godwin-Jones (2022) echoes this caution, observing that many learners misuse technology or lack the skills to engage with it critically and meaningfully.

Bridging Digital Literacy and Autonomy in the ESL Context

In the context of ESL education, integrating digital literacy skills with autonomy can significantly enhance language learning outcomes. As noted by Murray and Lamb (2018), fostering digital literacy empowers students to independently access diverse resources, enhancing their capacity for lifelong learning. Moreover, O'Dowd (2021) highlights that digital platforms enable cross-cultural exchanges, fostering both language acquisition and global competence. However, these benefits are contingent upon deliberate instructional design and ongoing support. The integration of digital literacy skills into ESL education is not merely an enhancement but a necessity in the digital age. By equipping learners with these skills, educators can foster greater autonomy, enabling students to take control of their language learning journeys. This symbiotic relationship between digital literacy and autonomy holds promise for addressing the diverse needs of ESL learners, particularly in the post-pandemic era characterized by remote and blended learning modalities. Although ESL learners have increasing access to digital tools, many lack the digital literacy skills needed effectively for autonomous learning practices. The absence of structured digital literacy skills education within ESL programs limits students' capacity to take charge of their learning. This research seeks to explore how digital literacy skills contributes to learner autonomy practices in ESL classrooms in fostering independent learning behaviors through technology

Objectives of the study

1. To find out the Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria
2. To determine the Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria?

Research Questions

1. What is the difference in the Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria?
2. What is the difference in the Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria?

Hypotheses

- H₀₁: There is no significant difference in the Digital Literacy Skills of 100-level ESL students in Ahmadu Bello University, Zaria.
- H₀₂: There is no significant difference in the Autonomous Learning Practices of 100-level ESL students in Ahmadu Bello University, Zaria.

Methodology

The study adopts a one-shot survey design which is suitable for examining difference among a given set of subjects in a natural educational setting without manipulation. This design allows the researcher to gather quantitative data to provide a holistic understanding of students' level of Digital Literacy of ESL learners' and how it helps them in their Autonomous Learning Practices. The target population comprises of all undergraduate ESL students of the Ahmadu Bello University Zaria. There are 121 students from 100-400 level who are studying ESL. The accessible population are the 100 Level ESL students with basic access to Digital Technologies. There are 40 students in that level who served as the sample for the study. A structured questionnaire was used to measure students' Digital Literacy Skills and the level of their Autonomous Learning Practices. The questionnaire consisted of closed-ended items A, B and C Section A focused on students. The questionnaire was divided into three sections; Section A, B, and C. Section A is about the students Demographic Information, Section B is on Digital demographic information; section B, assessed digital literacy skills; and section C examined autonomous learning practices. The instrument was validated by experts in Language and ICT skills. In order to further validate the instrument, it was pilot tested and the internal consistency of the items was computed through Cronbach's Alpha. The reliability indices obtained for section B and C are 0.86 and 0.92, respectively. The instrument was given to the students and retrieved within 30 minutes. The data collected was coded and subjected to analysis through appropriate tools. The data was analyzed using descriptive statistics (mean and standard deviation) to answer the research questions and inferential statistics (one-sample t-test) to test the null hypothesis at 0.05 level of significance

Presentation of Results

Research Question One

What is the difference in the Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria? This research question was answered using descriptive statistics of mean and standard deviation. A decision mean of 2.50 will be considered to show level of the possession of Digital Literacy Skills of the 100 Level Students. The result of the analysis is presented in Table 1.

Table 1: Means and Standard Deviations on Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria.

Statement	Mean	SD
I use search engines (like Google) to find information in English.	4.73	.816
I can solve technical problems on my device without help.	4.33	1.095
I can evaluate if online information is true or useful.	4.15	.975
I use apps or websites (like Duolingo or YouTube) to learn English.	4.13	.939
I know how to protect my personal information online.	3.98	1.074
I collaborate with classmates online to learn or complete assignments.	3.95	1.300
I can write emails, messages, or comments in English using proper grammar.	3.90	1.317
I use digital dictionaries or translation tools to understand English words.	3.75	1.428
I participate in online learning platforms or school portals.	3.70	1.454
I can create or edit digital content (like a blog post or video) in English.	3.63	1.334
Aggregate	4.03	1.173

Table 1 presents the means and Standard Deviations of Digital Literacy Skills possessed by 100 Level Students in Ahmadu Bello University Zaria. The Skills are presented in a Descending order of magnitude. The Skill that is most possessed by majority of the students is that they use search engines (like Google) to find information in English with a mean and standard deviation of (M=4.73, SD=0.816, followed by ability to solve technical problems on their devices without any help with (M=4.33, SD=1.095). The least amongst the skills are that the students create or edit digital content (like a blog post or video) in English and they can participate in online learning platforms or school portals with means and standard deviations of (M=3.63, SD=1.334) and (M=3.70, SD=1.454), respectively. The overall mean and standard deviation are (M=4.03, SD=1.173). This shows that on the overall, the whole 100 Level TESL Students are not different in the way they always use their Digital Literacy Skills.

Research Question Two

What is the difference in the Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria? This research question was answered using descriptive statistics of mean and standard deviation. The result of the analysis is presented in Table 2.

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Table 2: Means and Standard Deviations on Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria.

Statement	Mean	SD
I enjoy learning English on my own using digital tools.	4.48	.751
I look for new ways to practice English outside the classroom.	4.38	1.005
I set personal goals for improving my English skills.	4.30	1.159
I feel confident managing my own English learning process without depending on the teacher all the time.	4.17	1.035
I reflect on what I learn and try to improve.	4.10	1.150
Aggregate	4.29	1.02

Table 2 presents the means and Standard Deviations of Autonomous Learning Practices possessed by 100 Level Students in Ahmadu Bello University Zaria. The Practices are presented in a Descending order of magnitude. The Practice that is most possessed by majority of the students is that they enjoy learning English on their own using digital tools with a mean and standard deviation of (M=4.48, SD=0.751, followed by looking for new ways to practice English outside the classroom with (M=4.38, SD=1.005). The least amongst the practices are that the students reflect on what they learn and try to improve and they feel confident managing their own English learning process without depending on the teacher all the time with means and standard deviations of (M=4.10, SD=1.150) and (M=4.17, SD=1.035), respectively. The overall mean and standard deviation are (M=4.29, SD=1.02). This shows that on the overall, the whole 100 Level TESL Students are not different in the way they always apply their Autonomous Learning Practices.

Null Hypothesis One

There is no significant difference in the Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria. This null hypothesis was tested using one-sample t-test at $\alpha=0.05$ level of significance. The initial test value (assumed mean) was 0. The result of the analysis is presented in Table 3.

Table 3: Summary of one-sample t-test analysis on the Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria.

N	Mean	SD	Std. Error Mean	T	df	p	Mean	95% Confidence Interval of the Difference	
							Difference	Lower	Upper
40	40.23	4.610	.729	55.181	39	.000	40.225	38.75	41.70

Table 3 presents summary of one-sample t-test in the Digital Literacy Skills of 100 level ESL students. The result revealed that $t(39)=55.181$, $p=0.001$; the null hypothesis which stated no significant difference was rejected. Therefore, there was a significant difference in the Digital Literacy Skills of 100 level ESL students.

Null Hypothesis Two

There is no significant difference in the Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria. This null hypothesis was tested using one-sample t-test at $\alpha=0.05$ level of significance. The initial test value (assumed mean) was 0. The result of the analysis is presented in Table 4.

Table 4: Summary of one-sample t-test analysis on the Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria

N	Mean	SD	Std. Error	t	Df	p	Mean	95% Confidence Interval of the Difference	
			Mean				Difference	Lower	Upper
40	21.43	2.601	.411	52.103	39	.000	21.425	20.59	22.26

Table 4 presents summary of one-sample t-test in the Autonomous Learning Practices of 100 level ESL students. The result revealed that $t(39)=52.103$, $p=0.001$; the null hypothesis which stated no significant difference was rejected. Therefore, there was a significant difference in the Autonomous Learning Practices of 100 level ESL students.

Findings

1. There was a significant difference in the Digital Literacy Skills of 100 level ESL students of Ahmadu Bello University, Zaria.

2. There was a significant difference in the Autonomous Learning Practices of 100 level ESL students of Ahmadu Bello University, Zaria.

Discussion of Findings

The findings confirm that digital literacy skills play a critical role in promoting autonomous learning in ESL contexts. This aligns with previous studies (e.g., Reinders & White, 2011; Benson, 2011), which emphasized the importance of technology in enabling learner independence. The strong correlation observed supports the notion that equipping students with digital skills directly influences their ability to set goals, evaluate progress, and continue learning outside the classroom. Interestingly, while many students reported regular use of digital tools, not all demonstrated equal levels of autonomy, suggesting the need for guided use and structured integration of digital tools in teaching. The findings revealed a high level of digital literacy skills among 100-level ESL students, as evidenced by high mean scores across core indicators such as using search engines ($M = 4.73$), solving technical issues ($M = 4.33$), and evaluating online information ($M = 4.15$). These results corroborate Ng's (2012) framework, which views digital literacy as encompassing technical, cognitive, and social-emotional dimensions. The students' proficiency in these areas aligns with van Laar et al.'s (2020) assertion that 21st-century skills must include problem-solving and critical information evaluation. However, students exhibited comparatively lower proficiency in digital content creation ($M = 3.63$) and participation in structured digital learning platforms ($M = 3.70$). This supports Godwin-Jones (2022), who argues that being digitally exposed does not equate to educational digital fluency. Many learners remain passive consumers rather than active creators or collaborators, particularly in formal educational contexts. Similarly, Son (2011) emphasizes that learners in developing regions may lack structured training in formal academic digital tools despite general internet familiarity. The disparity observed underscores the importance of moving beyond functional digital use to academic digital engagement. This aligns with Reinders and White's (2011) findings that autonomy and effective digital usage must be cultivated through structured pedagogical support, not assumed by default. As such, while foundational digital skills are present, the findings point to a pressing need for targeted interventions that introduce students to LMS platforms, academic blogging, and collaborative technologies (Dudeney et al., 2013; Kessler, 2018).

Research Question Two: What is the difference in the Autonomous Learning Practices of 100-level ESL students in Ahmadu Bello University, Zaria?

The findings also revealed a strong presence of autonomous learning behaviors. Students scored highly on statements indicating self-directed practices, such as learning English independently using digital tools ($M = 4.48$), setting personal learning goals ($M = 4.30$), and seeking new learning opportunities outside class ($M = 4.38$). These patterns reflect core principles of learner autonomy as described by Benson (2011) and Little (2007), who link autonomy to goal-setting, self-monitoring, and motivation. Nonetheless, the slightly lower scores for reflective practice ($M = 4.10$) and self-confidence without teacher dependency ($M = 4.17$) suggest an area where autonomy is still emerging. According to Lee (2016), while learners may engage in autonomous activities, deep autonomy also involves metacognitive awareness reflecting on progress and adjusting strategies accordingly. The positive correlation between digital literacy and autonomous learning observed in this study mirrors the position of Murray and Lamb (2018), who argue that digital tools are catalysts for autonomy when used meaningfully. However, both Reinders and White (2011) and O'Dowd (2021) caution that autonomy is not a guaranteed outcome of digital access; intentional instructional scaffolding is essential.

Conclusion

The findings of this study underscore the importance of digital literacy skills in fostering autonomous learning practices among ESL students. The descriptive and inferential analyses revealed that 100-level ESL students at Ahmadu Bello University, Zaria, possess a relatively high level of digital literacy, particularly in navigating search engines, accessing information, and resolving technical issues. However, the findings also indicate that students are less proficient in formal educational digital tasks, such as creating content or using structured learning platforms. Similarly, the students demonstrated strong autonomous learning tendencies, such as setting personal goals, engaging in self-study, and seeking learning opportunities outside the classroom. These results affirm that digital literacy and autonomy are interconnected, and that enhancing students' digital capabilities contributes significantly to their ability to take ownership of their learning. The study highlights the need for structured integration of digital tools into ESL pedagogy to bridge the gap between basic digital familiarity and educational digital fluency. Therefore, equipping students with both the skills and confidence to use technology meaningfully is essential for cultivating a generation of self-directed, lifelong learners in language education.

Recommendations

1. ESL programs should incorporate modular digital literacy courses that emphasize both general and academic digital tool usage, aligning with the skills highlighted in the first research question.

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2. Educational technology activities such as blogging, digital storytelling, and collaborative projects should be introduced to build students' creative and reflective digital capacities in line with their observed limitations in content creation.

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