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Understanding the Digital Literacies of English Major Students in Tertiary Education

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Abstract

Due to the infusion of technology in education, second language acquisition is transforming enormously. While studies on technology-assisted language learning abound, research on the perceptions of digital literacies for those majoring in languages, especially English, remains scarce. This study investigated relationships between self-perceived digital literacies (knowledge, skills, attitudes), English reading comprehension, and demographics (academic years, geographic areas). 227 Chinese-background English major students from two universities completed a digital literacies questionnaire, a digital literacies test, and an English reading test. Results showed moderate-to-high self-perceived digital knowledge and skills, but no correlation was found between self-perceptions and actual digital competency. A positive correlation emerged between actual digital literacies and reading comprehension (r = .219, p < .001). Urban participants demonstrated higher self-perceptions and better scores in some skills. A notable perception-performance gap highlights potential overconfidence arising from daily digital practices versus guided academic application.

Keywords: Digital literacies, English as a foreign language, English major students, higher education, digital competency

Introduction

Digital technologies have been significantly integrated with everyday life, as well as English as a second language education. Conventional literacy skills, such as reading and writing, are no longer adequate to define a literate individual in

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the digital era (Miranda et al., 2018; OECD, 2021). Being digitally literate is not only beneficial for students' academic performance, but also better prepares them for a 21st-century workforce in a digital world (Khan et al., 2022; Martzoukou et al., 2022). Many countries and organizations stressed the pivotal position of digital literacy in Education. UNESCO underscores the application of information and communication technology (ICT) to improve the quality of education (UNESCO, 2022). Similarly, the European Union sets enhancing digital skills and competences of educators and learners as one of the priorities for digital transformation in education(European Commission, 2023). China also proposed the *China's Education Modernization 2035 Plan* and the *New Generation Artificial Intelligence Development Plan* to promote the digital transformation. As emphasized above, it is pivotal for developing countries to mitigate the widening digital divide through improving digital literacies.

Studies about integrating digital technologies into second or foreign language education have been widely conducted in the past decades. The introduction of technologies reshaped language acquisition both in pedagogy and classroom practice (Albadri et al., 2025). However, studies showed inconsistent results regarding digital literacy levels and students' backgrounds (Pinto et al., 2021; Thuy Nguyen & Habók, 2021). Particularly, few studies focus on whether language major students' digital literacies are in line with the availability of digital tools, since some studies suggest that students lack sufficient digital competence while being capable of accessing various digital tools. Therefore, this study aims to understand the digital literacies of students majoring in the English language through their self-perception and to explore the association between their backgrounds and digital literacies. As part of a doctoral study, two research questions were addressed in the main study here:

1. What are the self-perceived digital literacies of Chinese-background English major students?
2. What are the relationships regarding self-perceived digital literacies, actual digital competence and reading comprehension performance of Chinese-background English major students?

Methodology

A total of 227 English major students from two universities in China were included in this study. Students from year one and year three were recruited. The instruments employed included a self-perceived digital literacies questionnaire, a digital literacies test, and an English comprehension test. All

instruments were distributed to one grade at a time via a web-based platform, with the time-consuming and concentration-demanding measure commencing first, and then followed by the questionnaire and digital literacies test. After screening and cleaning, data were analysed by the statistical software package, SPSS version 29.

Results and Discussion

The descriptive analysis of the questionnaire showed that students tended to perceive their digital literacies knowledge as 'Medium' to 'Good'. Although a considerable variation was found in digital literacies skills, most students perceived confidence in skills in areas related to information searching and evaluation. As for the attitudes towards digital literacies in English reading and learning, most students showed a significant positive attitude towards engaging with digital technologies and tools, but varied by the type of technology or tools, and the specific learning context.

By applying the independent samples T-test, statistically significant differences were found in the theoretical knowledge (digital devices, operating system, networks, data safety; all $p < .05$), and skills in keyboard shortcuts and office software ($p < .001$), where third-year students reported having a higher level. However, no significant differences were found in attitudes. These results suggest a consistent positive attitude towards using digital technologies and tools in English reading and learning. A minimal difference between the two academic years was found from actual digital literacies test scores ($p = .080$).

The one-way analysis of variance (ANOVA) employed revealed no significant variance in students' perceptions of knowledge and attitudes towards digital literacies, except those urban students demonstrated stronger self-perceived digital literacies skills in handling software malfunctions ($p = .014$), searching ($p = .013$) and evaluating information ($p = .011$), reading from screens ($p = .005$) and accessing learning resources ($p < .001$). Notably, self-perceived digital literacies showed no significant correlation with the actual digital literacies and reading comprehension. However, a moderate correlation between the actual digital literacies test and reading comprehension test was observed ($r = .219$, $p < .001$).

The preliminary findings of this study are partly inconsistent with Monteiro and Leite's results (2021), which found no difference between students' academic year and digital literacies skills. However, the results of the current study indicate nuanced differences considering the factor of academic year. The misalignment of self-perception and actual performance of digital literacies, indicates that students often overestimate or underestimate their

digital competence, which confirms previous studies (e.g., Kruger & Dunning, 1999; Ng, 2012; Son et al., 2017). The significant positive correlation observed in the present study corroborates with studies exploring the impact of digital technologies on reading literacy, which emphasise that students' reading proficiency improved by using ICT tools in academic work (Lin et al., 2024; Xiao & Hu, 2019). To conclude, the findings of this study suggest that the latent discrepancy of digital literacies exists among English major students, which is easily neglected as they are 'digital natives' and majoring in social science (Prensky, 2001). This study highlights the importance of embedding digital literacies in the curriculum of language majors at the tertiary level and the continuum of future learning. Further insights into students' perceptions of digital literacies for language learning will be explored in the qualitative session of this study.

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