Digital Competence and Anxiety in Thai University English Education: Impacts on Teachers and Students

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Abstract

This study explored the levels of digital competence and digital anxiety among 25 teachers and 40 students in a Thai university, examining their relationship and impact on digital identities and the quality of online English language education. Guided by Complexity Theory, a mixed-methods approach was adopted, combining quantitative questionnaires with qualitative semi-structured interviews and focus-group discussions. Results indicated significant differences in digital competence and anxiety across generational and academic groups. Younger teachers and senior students showed higher digital competence and lower digital anxiety. Additionally, a significant negative correlation between digital competence and anxiety was observed, suggesting that higher digital competence reduces anxiety. Thematic analysis further revealed that higher digital competence promotes cohesive and confident digital identities, while higher anxiety contributed to fragmented identities. These findings emphasize the importance of enhancing digital literacy and providing psychological support to improve educational outcomes. The study advocates for comprehensive digital literacy programs tailored to different generational and academic groups. Future research should involve larger, more diverse samples, consider additional variables, and explore strategies to enhance digital competence and reduce anxiety. This research offers insights into the complex interplay between digital competence, anxiety, and identity in educational contexts.

Keywords: Anxiety, competence, Digital Identity, Online Education, Thai University

1. Introduction

1.1 Positive Effects of the Digital Revolution on Human Well-Being, Society, and Education

In the present era, the digital revolution has facilitated various aspects of human life, including well-being, societal interactions, and educational practices. In terms of well-being, digital technologies have significantly enhanced health management and personal safety. For instance, smartwatches and fitness trackers monitor important signs, physical activity, and sleep patterns, providing users with real-time health data and encouraging healthier lifestyles (Piwek et al., 2016). Moreover, telemedicine has expanded access to healthcare and allowed individuals to consult with healthcare providers remotely, which is beneficial in underserved and rural areas (Dorsey & Topol, 2020). Additionally, mental health apps and online therapy platforms offer accessible support and resources, reducing the stigma associated with seeking mental health care (Andersson & Titov, 2014).

Furthermore, digital technologies have transformed global societal interactions. For example, social media platforms, video conferencing tools, and instant messaging applications enable individuals to maintain relationships across distances, collaborate in real-time, and access diverse information sources (Anderson, 2021). Consequently, this global connectivity has led to the creation of virtual communities, enhancing cross-cultural interactions and understanding. In addition, social media has become a powerful tool for social change, enabling grassroots movements and giving a voice to marginalized groups (Shirky, 2011).

Moreover, the COVID-19 pandemic underscored the critical role of digital platforms in education. With traditional classroom settings disrupted, teachers and students relied on digital tools for information retrieval, project submissions, and the development of teaching materials. Specifically, digital platforms like Google Classroom, Zoom, and Microsoft Teams became essential for maintaining educational continuity. This shift to online education illustrates the convenience and necessity of digital tools in contemporary educational practices, emphasizing their role during crises (Hodges et al., 2020). Besides, digital technologies have made education more accessible by providing access to a wealth of online resources and courses, expanding learning opportunities beyond geographical and socio-economic constraints (Means et al., 2014).

1.2 Digital Challenges of Teachers and Students: Digital Divide, Competence, and Anxiety

Despite the benefits presented above, the digital age presents significant challenges. One prominent issue is the "digital divide," which separates individuals into "digital immigrants" and "digital natives" based on their birth years and technological familiarity (Prensky, 2001a; Prensky, 2001b; Underwood, 2007; Waycott et al., 2010). Specifically, this dichotomy has been criticized for oversimplification,

as digital natives, or those born after 1980, are generally perceived as more adept with technology, while digital immigrants, born before 1980, may struggle with digital tools and experience higher levels of digital anxiety. Additionally, the digital divide impacts both access to technology and the quality of engagement with digital tools, leading to significant inequalities in various sectors, including healthcare and employment. Consequently, individuals with limited access to or familiarity with technology may find it challenging to fully participate in these areas, potentially widening the gap between them and their more technologically adept counterparts (Selwyn, 2011).

In the context of education, the digital divide affects both teachers and students, particularly regarding their digital competence and anxiety. To illustrate, teachers with limited access to or familiarity with technology may struggle to incorporate digital tools into their teaching practices, leading to disparities in teaching effectiveness and student learning outcomes. Furthermore, the transition to online platforms during the COVID-19 pandemic required rapid acquisition of digital skills and effective integration of technology into pedagogy. As a result, many teachers encountered challenges in using online teaching platforms, creating digital content, and managing virtual classrooms, hindering their ability to deliver quality education and maintain student engagement (Hodges et al., 2020; Trust & Whalen, 2020). Similarly, students lacking access to technology or digital literacy skills may struggle to keep up with their peers, leading to increased frustration and anxiety, especially among those from lower socio-economic backgrounds (Selwyn, 2011). The pandemic further exposed these issues, as many students, particularly those from low-income households, struggled to participate in remote education due to inadequate technological resources and poor internet connectivity. This digital inequity affected their ability to attend virtual classes, complete assignments, and engage in interactive learning activities, widening the educational gap between students with sufficient resources and those without (Hodges et al., 2020).

1.3 Gaps in Existing Knowledge

Although the impacts of the digital divide on teachers' and students' digital competence and anxiety have been explored by previous studies (e.g., Selwyn, 2011; Hargittai & Hinnant, 2008; Helsper & Eynon, 2010), there remain gaps to fill. Notably, with the rapid and ongoing change of technology, traditional indicators such as age and birth year may no longer be the primary measures of digital competence or anxiety. Recent research indicates that some teachers, despite being categorized as digital immigrants, display high levels of digital competence (Russell et al., 2003). Conversely, some students, typically considered digital natives, may present low levels of digital competence coupled with high levels of digital anxiety (Margaryan et al., 2011). This changing scenery suggests that the relationship between age, digital competence, and anxiety is more complex than previously understood, warranting further investigation.

Additionally, it was observed that existing literature has predominantly focused on digital competence and digital anxiety as separate constructs. There is a shortage of research examining the relationship between these factors and their combined impact on educational outcomes. Most studies have explored these dimensions in isolation, overlooking how their interaction can influence teaching and learning processes (e.g., Tondeur et al., 2017; Tsai et al., 2018). Furthermore, there is also a lack of research on digital identities and their relationship to the digital divide, digital competence, and digital anxiety. Much of the existing literature focuses predominantly on Western contexts, with limited research on how these digital challenges manifest in Asian educational settings, particularly in Thailand (e.g., Dang, 2015; Lim, 2018).

1.4 Research Hypotheses (RH)

This study sought to bridge the gaps by examining digital competence, digital anxiety, and digital identity concurrently. Focusing on Thai university teachers and students, this research offers valuable insights into the unique digital challenges present in non-Western educational contexts, contributing to the global discourse on digital education. Additionally, the findings may inform the development of targeted interventions and training programs to enhance digital competence and reduce digital anxiety, improving the quality of online English language education (Foley, 2005; Lim, 2018; Dang, 2015). The hypotheses guiding this investigation include:

1) RH1: Teachers and students exhibit varying levels of digital competence and digital anxiety, which are influenced by factors beyond age and birth year.
2) RH2: There is a significant interaction between digital competence and digital anxiety, which jointly impact educational outcomes.
3) RH3: Digital identities of teachers and students are influenced by their levels of digital competence and anxiety, and these identities are contextually dynamic.
4) RH4: The interplay between digital competence, digital anxiety, and digital identity significantly affects the quality of online English language education.

2. Literature Review

2.1 Conceptualization and Relationship of Digital Competence, Digital Anxiety, and Digital Identity

2.1.1 Digital competence

Digital competence refers to the confident, critical, and innovative use of Information and Communication Technology (ICT) to achieve goals related to work, employability, learning, leisure, social inclusion, and participation in society (Ferrari, 2012). Various terms, including ICT skills, technology skills, information technology skills, 21st-century skills, information literacy, digital literacy, and digital skills, have been used to describe these competencies (Ilomäki et al., 2011). Moreover, the term is dynamic and frequently revised due to rapid technological advancements (Ala-Mutka et al., 2008).

Several institutions have attempted to define digital competence or design models for measuring it. For instance, the Norwegian Centre for ICT in Education introduced the concept of "Professional Digital Competence," including seven competency areas for teachers (Kelentrić et al., 2017). Additionally, the European Commission's "Digital Competence Framework for Citizens" (DigComp) version 2.2 outlines five competence areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving (Vuorikari et al., 2022).

Notably, the DigComp Framework is suitable for this study because it applies to both teachers and students, providing a detailed and updated set of competencies reflecting the current demands of the digital age. Furthermore, it has been extensively used with positive results, confirming its reliability and sensitivity (Khan & Vuopala, 2020; Mattar et al., 2020; Reisoğlu & Çebi, 2020). By focusing on these five areas, this study aims to provide a comprehensive assessment of digital competence among teachers and students in the context of online English language education.

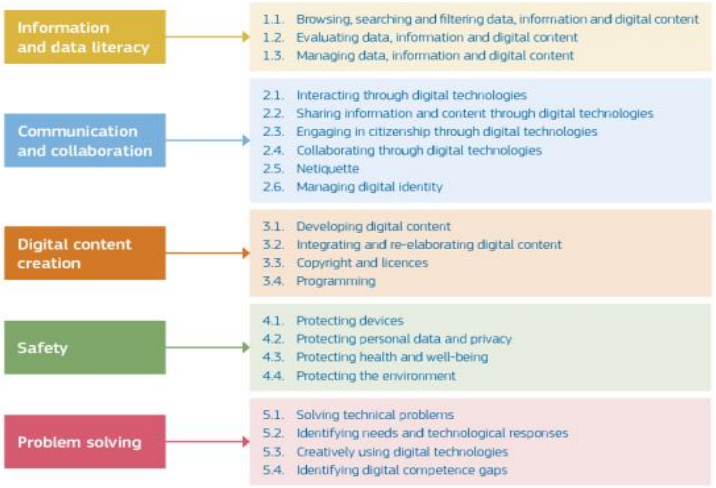

Figure 1. Digital Competence Framework for Citizens (DigComp) Version 2.2

2.1.2 Digital Anxiety

As previously stated, digital anxiety is one of the most distressing consequences of the digital revolution. Similarly to digital competence, this term has been conceptualized broadly and employed for various purposes. For example, in neurology, digital anxiety can be associated with 'digital addiction,' which refers to a primary, chronic disease of brain reward, motivation, memory, and related circuitry (Peper & Harvey, 2018). Deficiencies in these neural circuits result in distinctive biological, psychological, social, and spiritual manifestations. Specifically, this is demonstrated by a person's pathological pursuit of reward and/or relief through substance use and behaviors such as Internet gaming. In contrast, in health science and technology, digital anxiety may be referred to as 'digital mental health,' which encompasses digital-related disorders of the nervous system characterized by behavioral or mental patterns causing significant distress or impairment of personal functioning. These disorders require the application of digital health technology for assessment, support, prevention, and treatment (Wies et al., 2021).

In the context of this study, the term digital anxiety is interrelated with 'digital stress' as defined by Hall (2020). It is believed that digital stress is influenced not only by technology but also by digital users' experiences with other aspects of their lives. According to Hall (2020), Hefner and Vorderer (2016), and Reinecke et al. (2016), digital stress results from the extensive and possibly permanent use of information and communication technologies, triggered by constant access to an overwhelming quantity and variety of (social) content. Digital stress includes notifications from devices or platforms as well as the actual use of media platforms and the stress or anxiety that results from their use. Moreover, Hall (2020) identifies five types of digital stress (see Figure 2):

1) Availability Stress: Anxiety or stress associated with the adoption of digital devices, applications, platforms, modes, and channels.
2) Approval Anxiety: Uncertainty and anxiety regarding the responses and reactions of others to one's posts, photos, and messages, as well as to one's overall digital footprint (i.e., digital profile).
3) Fear of Missing Out: Distress caused by the actual, perceived, or anticipated social consequences of one's absence from rewarding experiences for others. This distress is characterized by feelings of exclusion or isolation.
4) Connection Overload: Distress caused by the subjective experience of receiving an excessive amount of information from digital sources, such as notifications, messages, and posts.
5) Cost of Caring: Distress caused when digital media heightens awareness of life events in the lives of both close and distant acquaintances, leading to psychological stress from unfavorable major life events experienced by others.

Figure 2. Digital Anxiety Based on Hall's (2020) 'Digital Stress'

2.1.3 Digital Identity

Digital identity refers to the online representation of an individual, shaped by their interactions, activities, and presence in digital environments (Belk, 2013). Specifically, it encompasses various aspects of one's online persona, including social media profiles, digital footprints, and online behaviors (Jones & Hafner, 2012). Digital identity is dynamic and constantly evolving, influenced by the individual's digital competence, anxiety, and the specific contexts in which they engage with technology (Costa & Torres, 2011). Effectively, the management of digital identity involves actively curating one's online presence to align with personal or professional goals (Belk, 2013). This includes managing privacy settings, creating and sharing content, and engaging with digital communities in ways that reflect one's desired identity (Boyd, 2014).

In the context of education, digital identity is particularly important as it can affect both teaching and learning experiences. For example, for teachers, a well-managed digital identity can enhance their professional credibility and engagement with students (Trust et al., 2016). Likewise, for students, a positive digital identity can facilitate academic and social integration, contributing to a more cohesive and confident online presence (Costa & Torres, 2011) (see Figure 3).

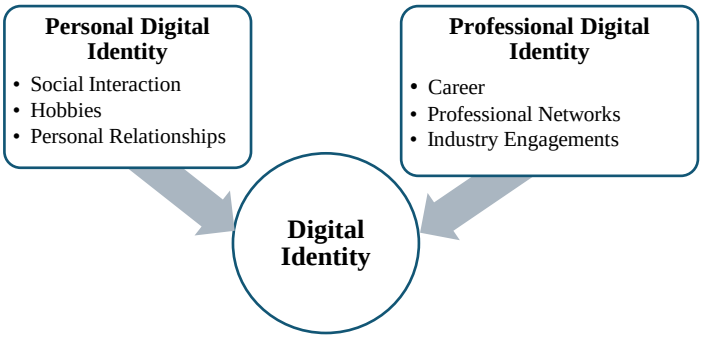

Figure 3. Digital Identity Framework Based on Personal and Professional Dimensions

2.1.4 The Relationship among Digital Competence, Digital Anxiety, and Digital Identity and Their Impacts on Education

The relationship among digital competence, digital anxiety, and digital identity is complex and interconnected. Typically, higher digital competence leads to lower digital anxiety, as individuals feel more comfortable and confident using technology (Hollis, 2018; Korte et al., 2020). Conversely, lower digital competence can increase digital anxiety, leading to avoidance behaviors and fragmented digital identities (Buchanan et al., 2017; Elhai et al., 2017). Moreover, digital competence significantly influences digital identity. Specifically, individuals with higher digital competence can manage their digital identities more effectively, creating a cohesive and empowered online presence (Costa & Torres, 2011; Jones & Hafner, 2012).

In educational contexts, these relationships are particularly significant. For example, teachers and students with high digital competence tend to have lower digital anxiety and more cohesive digital identities, enhancing their educational experiences. Conversely, high digital anxiety can hinder the adoption of digital tools, negatively impacting teaching and learning outcomes (Hodges et al., 2020; Trust & Whalen, 2020). Therefore, understanding these relationships is crucial for developing strategies to enhance digital literacy and reduce digital anxiety, ultimately improving educational outcomes (Selwyn, 2011) (see Figure 4).

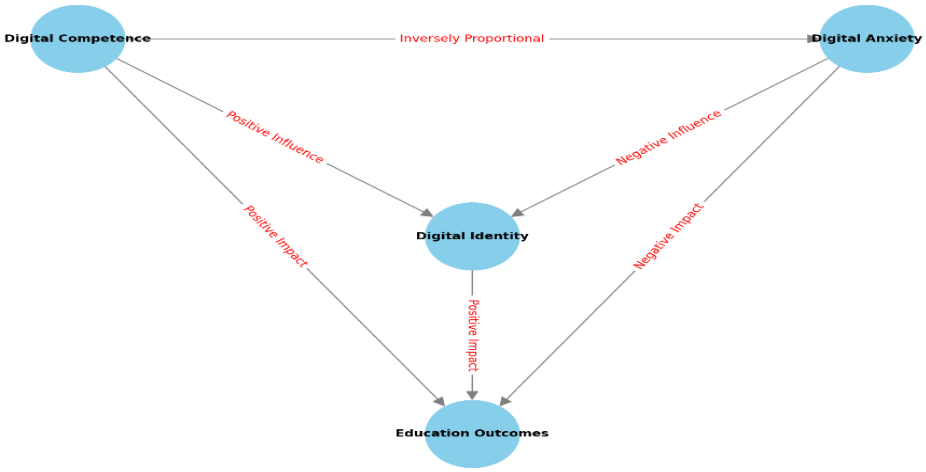

Figure 4. Model of Relationship Among Digital Competence, Digital Anxiety, and Digital Identity

2.2 The Complexity Theory in Digital English Language Education

Complexity theory posits that behavior results from interactions between numerous components, which are subject to change over time (Larsen-Freeman, 2011). This perspective is particularly relevant in today's multifaceted digital learning contexts, requiring adaptable teaching methods beyond traditional face-to-face interactions (Johnson, 2009). Modern English education demands high digital competence from both teachers and students, including proficiency with digital tools and online resource management (Hampel & Stickler, 2015). Moreover, the widespread use of technology can induce digital anxiety, affecting both teachers and students, while managing digital identities adds another layer of complexity (Palfrey & Gasser, 2008).

Complexity theory emphasizes the interconnectedness of system components and their adaptive capabilities (Davis & Sumara, 2006). Improvements in digital competence can reduce digital anxiety and promote a positive digital identity, while high digital anxiety can hinder digital competence development and lead to a fragmented digital identity (Kim & Frick, 2011). Furthermore, the relationships among digital competence, anxiety, and identity are nonlinear. Small changes in one component can lead to significant variations in others (McLoughlin & Lee, 2010). Continuous interaction with digital technologies in educational settings leads to emergent behaviors shaping digital experiences. Thus, understanding these behaviors can help design interventions to enhance digital competence and reduce anxiety (Brown, 2000). Additionally, educational contexts are sensitive to initial conditions and contextual factors, with the impact of digital tools varying based on prior experience, institutional support, and specific educational environments (Selwyn, 2011).

3. Research Methodology

This study employs a mixed-method research approach, combining quantitative and qualitative methods to investigate digital competence, digital anxiety, and digital identity among teachers and students. Specifically, quantitative data were collected using standardized questionnaires, while qualitative data were gathered through semi-structured and focus-group interviews. This approach allows for a comprehensive understanding of the research questions, providing both breadth and depth of insights. By integrating these methods, the study aims to capture a holistic view of the digital experiences and challenges faced by participants, ensuring a robust analysis of the data.

3.1 Mixed-Method Research Approach

A mixed-method research methodology was employed to investigate various aspects of digital competence, digital anxiety, and digital identity among teachers and students. Quantitative data were used to test hypotheses related to the relationship between digital competence and anxiety (RH1, RH2). Moreover, qualitative data provided a deeper understanding of these relationships and their impact on digital identities and educational outcomes (RH3, RH4). Correlational statistics identified relationships between digital competence and anxiety, while thematic analysis of qualitative data revealed how these relationships influenced digital identities and educational experiences. The mixed-method approach ensured a comprehensive understanding of the research questions, combining the strengths of both quantitative and qualitative methods.

2.2 Research Context

This study was conducted at a public university in northern Thailand, which has nearly 20,000 students enrolled in thirteen schools. The university's diverse student body, including international students from ASEAN member nations, provided a rich context for exploring digital competence, anxiety, and identity in English language education. Additionally, the researcher's position as a teacher in the Department of English Language facilitated access to participants and provided insider perspectives.

2.3 Population and Participant Selection

The study at the target university exclusively involved teachers and students from the English Department of the School of Liberal Arts. Specifically, teachers were included based on their experience in teaching English, both online and in traditional settings. They were further categorized into generational groups (Baby Boomers, Generation X, and Millennials) according to their birth year. Meanwhile, students involved in the study were from the English major, categorized by their academic level (senior, junior, sophomore, or freshman), all of whom are typically within the Millennial generation.

The target population for teachers included all 49 full-time lecturers, comprising 44 Thai teachers and 5 foreign lecturers. However, only 25 Thai teachers were available to participate in the study: 3 Baby Boomers (all males), 5 Generation X (four females and one male), and 17 Generation Y (fourteen females and three males). Unfortunately, none of the foreign lecturers were available to participate. Furthermore, the participant size aimed to recruit 40 English-major students, balanced across academic levels (10 seniors, 10 juniors, 10 sophomores, and 10 freshmen), with an equal number of males and females (20 each). A summary of the target population and participant size is presented in Table 1.

Table 1. Summary of Target Population and Participant Size

Group	Sub - Category	No. of Participants	Details
Teachers	Baby Boomers	3	All males
	Generation X	5	4 females, 1 male
	Generation Y	17	14 females, 3 males
	Total Teachers	25	Thai Teachers Only
Students	Seniors	10	5 males, 5 males
	Juniors	10	5 males, 5 males
	Sophomores	10	5 males, 5 males
	Freshmen	10	5 males, 5 males
	Total Students	40	Balanced across academic levels and genders

2.3 Research Instruments

Three research instruments were used to assess digital competence, digital anxiety, and digital identity: questionnaires, semi-structured interviews, and focus-group interviews. The combination of these methods provided a comprehensive understanding of participants' digital experiences and their impact on English language education.

2.3.1 Questionnaires on Digital Competence and Digital Anxiety

The deployment of questionnaires dedicated to assessing digital competence and digital anxiety was critical for gaining an in-depth understanding of these aspects among teachers and students. The researcher targeted a sample size of 25 available Thai teachers and 40 English major students. Each teacher and student received both the digital competence and digital anxiety questionnaires, ensuring comprehensive data collection from the identified potential samples.

The digital competence questionnaire was grounded in the DigComp Model, providing a structured approach to evaluate various levels and areas of digital competence. The digital anxiety questionnaire was based on Hall's (2020) framework, focusing on digital stress and its manifestations. These questionnaires played a vital role in quantifying the degrees of digital competence and anxiety, addressing the core research questions of the study.

Specifically, the digital competence questionnaire aligned with RH1, investigating the nature and degree of digital competence among the participants. Conversely, the digital anxiety questionnaire correlated with RH2, exploring the extent and characteristics of digital anxiety within the same group. The data collected from these questionnaires provided a crucial baseline for examining the interplay between digital competence, anxiety, and digital identities, as highlighted in RH3. This foundational dataset was also integral in evaluating the impact of these factors on English language education, which is the focus of RH4.

An important aspect of these questionnaires was their ability to enable comparative analyses between teachers and students. By analyzing the responses from both groups, the questionnaires revealed the distinct and overlapping patterns of digital competence and anxiety. This comparative analysis enhanced the understanding of how each group interacted with and perceived digital technology in the realm of English language education, offering valuable insights into their distinct and shared experiences.

2.3.3 Semi-Structured Interviews

To address RH3 (teachers' and students' digital identities) and RH4 (the influence of digital competence, digital anxiety, and digital identity on English language education of teachers and students), the researcher invited 15 teachers (i.e., 3 Baby Boomers, 5 Gen X, and 7 Gen Y) and 15 students (i.e., 3 Seniors, 4 Juniors, 4 Sophomores, and 4 Freshmen) to participate in semi-structured interviews. Selection was based on their questionnaire responses to ensure a diverse representation of digital competencies and anxieties. Information from the online questionnaires was used as prompts for the interview sessions. For instance, questionnaire responses concerning types of digital devices and their purposes guided questions about the digital identity of the participants. The interview responses provided insights into digital identity (RH3) and, combined with questionnaire responses (types and levels of digital competence and digital anxiety [RH1] and their relationship [RH2]), were used in the focus group interview to discuss their influence on English language education (RH4). The interviews, conducted in Thai, were either face-to-face or online, depending on participant availability. Each interview lasted over 30

minutes and was recorded for transcription and analysis.

2.3.4 Focus-Group Interviews

Focus group interviews were utilized to gain insights into the impact of digital competence, anxiety, and identity on teachers' and students' English language education. According to Masadeh (2012), focus groups are effective for generating qualitative data through structured and focused discussions led by a moderator. Barrows (2000) noted that focus groups can cover many people efficiently and provide in-depth insights that other methods, such as surveys, cannot offer.

The researcher used questionnaire responses (describing types and levels of digital competence and digital anxiety) and interview responses (focusing on digital identities) as prompts for the focus group discussions. This approach simplified data collection procedures and validated the study's triangulation. Notably, the participants in the focus group interviews were the same individuals who participated in the semi-structured interviews. This setup allowed for cross-verification of responses, where the results from the focus groups could either confirm or challenge the findings from the semi-structured interviews, adding a layer of robustness to the analysis.

There was one session of focus-group interviews, with participants chosen based on their willingness and availability. The session included 16 participants (eight teachers and eight students), divided into two groups of teachers and two groups of students, with four participants each. Conducted in Thai, the focus-group interviews were either in person or online, depending on participant availability, and lasted over 30 minutes, with recordings made for transcription and analysis purposes.

2.4 Data Analysis

For each of the research hypotheses, specific analytical frameworks were employed to ensure a comprehensive understanding of the digital experiences of teachers and students and their impact on English language education. To investigate the types and levels of digital competence and digital anxiety (RH1), both quantitative and qualitative data were collected. Quantitative data, such as scores from standardized questionnaires, were analyzed using descriptive statistics (mean, median, mode, standard deviation) to assess overall levels, and inferential statistics (t-tests, ANOVA) to compare groups and explore variations. Qualitative data from open-ended responses were analyzed using content analysis to identify common themes related to digital competence and anxiety. Additionally, exploring the relationship between digital competence and digital anxiety (RH2) involved employing correlation analysis to calculate correlation coefficients and understand the relationship between the two variables. Additionally, regression analysis was used to determine if digital competence could predict digital anxiety levels and to examine the influence of other variables such as age and experience.

At the same time, to examine digital identities (RH3), thematic analysis was utilized to identify and analyze themes in qualitative data from interviews and open-ended questionnaire responses. Comparative analysis was also conducted to compare themes and patterns across different groups, such as teachers versus students, to understand varied experiences and perceptions of digital identity. Besides, assessing the impact of digital competence, anxiety, and identity on English language education (RH4) required a mixed-methods approach. This involved combining quantitative data to measure impacts (e.g., levels of digital anxiety and competence) with qualitative data to gain deeper insights into how digital competence and anxiety influenced learning experiences. Triangulation was employed to integrate findings from different data sources, including questionnaires, interviews, and focus groups, to form a comprehensive understanding of the impact. These analytical frameworks allowed for a thorough investigation of each research hypothesis, providing valuable insights into the digital experiences of teachers and students and their influence on English language education.

4. Results

4.1 RH1: Teachers and Students Exhibit Varying Levels of Digital Competence and Digital Anxiety

Table 2. Descriptive Statistics of Digital Competence and Digital Anxiety Scores by Group

Group	Sub - Category	N	Mean Digital Competence	SD Digital Competence	Mean Digital Anxiety	SD Digital Anxiety
Teachers	Baby Boomers	3	3.7	0.8	3.8	0.7
	Generation X	5	3.9	0.5	2.8	0.4
	Generation Y	17	4.5	0.6	2.0	0.5
Students	Seniors	10	3.8	0.7	2.9	0.6
	Juniors	10	3.5	0.6	3.1	0.6
	Sophomores	10	3.3	0.7	3.3	0.6
	Freshmen	10	3.1	0.8	3.5	0.7

According to Table 2, the analysis of digital competence and anxiety revealed significant differences across groups. Baby Boomer teachers demonstrated moderate digital competence (mean score of 3.7, SD = 0.8) and experienced the highest levels of digital anxiety (mean score of 3.8, SD = 0.7). Generation X teachers showed a mean digital competence score of 3.9 (SD = 0.5) and a mean digital anxiety score of 2.8 (SD = 0.4). Generation Y teachers exhibited the highest digital competence (mean score of 4.5, SD = 0.6) and the lowest digital anxiety (mean score of 2.0, SD = 0.5).

Among students, seniors demonstrated relatively high digital competence (mean score of 3.8, SD = 0.7) and lower digital anxiety (mean score of 2.9, SD = 0.6). Juniors had moderate digital competence (mean score of 3.5, SD = 0.6) and anxiety levels (mean score of 3.1, SD = 0.6). Sophomores displayed lower digital competence (mean score of 3.3, SD = 0.7) and higher digital anxiety (mean score of 3.3, SD = 0.6). Freshmen reported the lowest digital competence (mean score of 3.1, SD = 0.8) and the highest digital anxiety (mean score of 3.5, SD = 0.7).

Table 3. Detailed Analysis of Digital Competence Variables by Group

Group	Sub - Category	N	Information and Data Literacy Mean (SD)	Communication and Collaboration Mean (SD)	Digital Content Creation Mean (SD)	Safety Mean (SD)	Problem Solving Mean (SD)
Teachers	Baby Boomers	3	3.5 (0.7)	3.6 (0.6)	3.7 (0.5)	3.8 (0.7)	3.5 (0.8)
	Generation X	5	3.7 (0.5)	3.8 (0.4)	3.9 (0.6)	4.0 (0.5)	2.9 (0.4)
	Generation Y	17	4.5 (0.6)	4.6 (0.5)	4.7 (0.4)	4.8 (0.3)	2.0 (0.5)
Students	Seniors	10	3.6 (0.7)	3.7 (0.6)	4.7 (0.4)	4.8 (0.3)	2.9 (0.6)
	Juniors	10	3.4 (0.6)	3.5 (0.6)	3.6 (0.5)	3.7 (0.6)	3.2 (0.6)
	Sophomores	10	3.3 (0.7)	3.4 (0.6)	3.5 (0.7)	3.6 (0.7)	3.4 (0.6)
	Freshmen	10	3.1 (0.8)	3.2 (0.7)	3.3 (0.7)	3.4 (0.8)	3.7 (0.8)

In addition, the detailed analysis of digital competence variables indicated that Baby Boomers scored highest in safety (mean score of 3.8, SD = 0.7) and lowest in problem solving (mean score of 3.5, SD = 0.8). Generation X showed balanced competence across areas, with higher scores in safety (mean score of 4.0, SD = 0.5) and digital content creation (mean score of 3.9, SD = 0.6). Generation Y excelled in all areas, particularly in safety (mean score of 4.8, SD = 0.3) and digital content creation (mean score of 4.7, SD = 0.4).

For students, seniors exhibited higher competence in safety (mean score of 4.8, SD = 0.3) and digital content creation (mean score of 4.7, SD = 0.4). Juniors were moderately competent, with slightly higher scores in safety (mean score of 3.7, SD = 0.6). Sophomores showed lower competence in problem solving (mean score of 3.3, SD = 0.7) compared to safety (mean score of 3.6, SD = 0.7). Freshmen had the lowest competence across areas, particularly in problem solving (mean score of 3.2, SD = 0.8).

Table 4. Detailed Analysis of Digital Anxiety Variables by Group

Group	**Sub - Category**	**N**	**Availability Stress Mean (SD)**	**Approval Anxiety Mean (SD)**	**Fear of Missing Out Mean (SD)**	**Connection Overload Mean (SD)**	**Cost of Caring Mean (SD)**
Teachers	Baby Boomers	3	3.7 (0.7)	3.9 (0.6)	3.6 (0.7)	3.5 (0.8)	3.8 (0.7)
	Generation X	5	2.7 (0.4)	2.9 (0.5)	2.8 (0.5)	2.9 (0.4)	2.8 (0.4)
	Generation Y	17	2.0 (0.4)	2.2 (0.5)	2.1 (0.5)	2.0 (0.5)	2.0 (0.5)
Students	Seniors	10	2.8 (0.6)	2.7 (0.5)	2.7 (0.5)	2.9 (0.6)	2.9 (0.6)
	Juniors	10	3.0 (0.6)	3.1 (0.6)	3.0 (0.6)	3.2 (0.6)	3.1 (0.6)
	Sophomores	10	3.2 (0.6)	3.3 (0.6)	3.2 (0.6)	3.4 (0.6)	3.3 (0.6)
	Freshmen	10	3.4 (0.7)	3.5 (0.7)	3.4 (0.7)	3.7 (0.8)	3.5 (0.7)

Regarding digital anxiety levels, the detailed analysis revealed distinct patterns across different groups. Baby Boomers demonstrated the highest anxiety in approval anxiety (mean score of 3.9, SD = 0.6), indicating significant concerns about how their digital actions are perceived by others. Generation X had balanced anxiety levels across various categories but showed moderate levels in all areas. However, Generation Y had the lowest anxiety overall, particularly in availability stress (mean score of 2.0, SD = 0.4), reflecting their comfort with being constantly connected and available.

For students, seniors showed lower anxiety levels, especially in fear of missing out (mean score of 2.7, SD = 0.5), likely due to their familiarity and longer exposure to academic digital tools. Juniors and sophomores displayed moderate anxiety levels across various categories, indicating a balanced approach to managing digital environments. Freshmen exhibited the highest anxiety in connection overload (mean score of 3.7, SD = 0.8), which can be attributed to their recent adaptation to digital academic environments and the overwhelming nature of managing multiple digital platforms.

4.2 RH2: There is a Significant Interaction Between Digital Competence and Digital Anxiety

As shown in Table 5 and Table 6 below, the regression analysis indicated that digital competence was a significant predictor of digital anxiety, accounting for 31% of the variance in digital anxiety scores ($\beta = -0.56$, $p < 0.01$). This result suggests that higher levels of digital competence are associated with lower levels of digital anxiety. Specifically, for every unit increase in digital competence, digital anxiety decreases by 0.56 units. Furthermore, the R-squared value of 0.31 signified that digital competence explains 31% of the variance in digital anxiety. This substantial proportion highlighted the strong relationship between these two variables.

Table 5. Correlation Analysis Between Digital Competence and Digital Anxiety

Variable	Digital Competence	Digital Anxiety
Digital Competence	1.00	-0.56
Digital Anxiety	-0.56	1.00
Note: $p < 0.01$		

Table 6. Regression Analysis Predicting Digital Anxiety

Predictor	β	SE	t	p-value
Digital Competence	-0.56	0.12	-4.67	<0.01
R-squared	0.31			

4.3 RH3: Digital Identities of Teachers and Students are Influenced by Their Levels of Digital Competence and Anxiety

Thematic analysis of semi-structured interviews identified several key themes related to digital identities. To illustrate, teachers

distinguished between their professional and personal digital identities. Professional identities were carefully crafted to reflect their teaching persona, while personal identities were more relaxed (see Excerpt 1). On the other hand, teachers with high digital competence reported a more cohesive and confident digital identity, actively managing their online presence (see Excerpt 2). Conversely, high digital anxiety led to fragmented or underdeveloped digital identities, with participants avoiding digital platforms and expressing discomfort with online interactions (see Excerpt 3).

Excerpt 1 (Baby Boomer Teacher No.1)

"I try to keep my professional identity very polished and focused on my teaching persona. My personal social media is more casual and less filtered."

Excerpt 2 (Gen Y Teacher No.1)

"I feel quite comfortable using various platforms, and I think it shows in how I present myself online. My students can see that I am confident and capable with technology."

Excerpt 3 (Gen X Teacher No.3)

"I find it really stressful to manage my digital presence. I often avoid it because I feel overwhelmed."

For students, digital competence significantly influenced their ability to manage and present their digital identities. Students with higher digital competence were able to navigate and manage their digital identities more effectively, participating actively in online discussions and presenting themselves confidently (see Excerpt 4). Conversely, students with higher levels of digital anxiety exhibited fragmented digital identities. They often avoided digital engagement, which resulted in underdeveloped online personas (see Excerpt 5).

Excerpt 4 (Senior Student No.4)

"I am pretty good at managing my online profiles. It helps me stay connected with classmates and teachers."

Excerpt 5 (Freshman Student No.2)

"I get really anxious about posting online. I worry about how I come across, so I usually just don't engage."

4.4 RH4: The Interplay Between Digital Competence, Digital Anxiety, and Digital Identity Significantly Affects the Quality of Online English Language Education

Focus-group interviews provided insights into how digital competence, anxiety, and identity impact English language education. For teachers, high digital competence enabled them to effectively integrate technology into their teaching, creating engaging and interactive learning experiences (see Excerpt 6). Conversely, digital anxiety hindered the use of digital tools, impacting teaching quality (see Excerpt 7). Students with high digital competence managed online resources well, collaborated effectively, and presented their digital selves confidently (see Excerpt 8). Conversely, high digital anxiety led to difficulties in online assignments and participation, negatively affecting learning outcomes (see Excerpt 9).

Excerpt 6 (Gen Y Teacher No. 4)

"Using digital tools has allowed me to make my classes more interactive and engaging. The students seem to appreciate the variety and the chance to use technology in their learning."

Excerpt 7 (Baby Boomer Teacher No. 2)

"I often avoid using new technology because I'm afraid of it not working properly and disrupting the class."

Excerpt 8 (Junior Student No. 5)

"I can easily find resources and collaborate with my classmates online, which makes studying much more efficient."

Excerpt 9 (Sophomore Student No. 3)

"I get really stressed out with online assignments because I'm not sure if I'm using the right tools or doing it correctly."

The discussions also revealed detailed impacts of digital competence and anxiety on different aspects of English language education. Teachers with higher digital competence reported being able to design more interactive and student-centered learning activities (see Excerpt 10). Moreover, teachers noted that digital competence enabled them to provide more timely and effective feedback to students (see Excerpt 11). Conversely, digital anxiety among teachers often resulted in missed opportunities for enriching the learning experience (see Excerpt 12).

Excerpt 10 (Gen X Teacher No. 5)

"I use online quizzes and interactive videos to keep the students engaged, which wouldn't be possible without my comfort with these digital tools."

Excerpt 11 (Gen Y Teacher No. 3)

"Using digital platforms, I can quickly give feedback on assignments, which helps students improve faster."

Excerpt 12 (Baby Boomer Teacher No. 3)

"I tend to stick to traditional methods because I'm not confident that I can troubleshoot problems that might come up with digital tools."

Students also highlighted how digital competence affected their ability to engage with course materials and collaborate with peers (see Excerpt 13). However, students with high digital anxiety reported difficulties in keeping up with coursework and participating in online activities, which negatively impacted their academic performance (see Excerpt 14).

Excerpt 13 (Senior Student No. 2)

"Being comfortable with digital tools means I can easily join group projects and discussions, which helps me learn better."

Excerpt 14 (Freshman Student No. 1)

"I often feel overwhelmed by the number of online resources we need to use, and it affects my ability to complete assignments on time."

The interplay between digital competence, digital anxiety, and digital identity was also evident in how participants perceived their roles and identities in the digital learning environment. Teachers with high digital competence felt more confident in their professional identity as teachers adept at using technology (see Excerpt 15). In contrast, high digital anxiety led to a fragmented or negative digital identity, with some teachers feeling inadequate or out of touch with current educational practices (see Excerpt 16).

Excerpt 15 (Gen Y Teacher No. 6)

"I feel that my ability to use digital tools effectively enhances my credibility as a modern teacher."

Excerpt 16 (Baby Boomer Teacher No. 3)

"I sometimes feel like I'm falling behind because I can't keep up with the technological changes."

Students' digital identities were similarly influenced by their levels of competence and anxiety. Those with high digital competence reported a more positive and integrated digital identity, feeling comfortable and effective in digital spaces (see Excerpt 17). Conversely, students with high digital anxiety often had a fragmented digital identity, feeling disconnected or inadequate in digital environments (see Excerpt 18).

Excerpt 17 (Junior Student No. 4)

"I feel like I can present myself well online, whether it's for academic purposes or social interactions."

Excerpt 18 (Freshman Student No. 3)

"I try to avoid online interactions because I'm not confident in my digital skills."

5. Discussion

The results from this study highlighted the varying levels of digital competence and digital anxiety among teachers and students, and how these variables influence their digital identities and the quality of online English language education. It also provided critical insights into the complex interplay between digital competence, anxiety, and identity, and underscored the need for targeted interventions to enhance digital skills and reduce anxiety.

5.1 Variations in Digital Competence and Anxiety (RH1)

The analysis of digital competence and digital anxiety revealed significant differences across different generational and academic groups. Baby Boomer teachers demonstrated moderate digital competence but experienced the highest levels of digital anxiety. This aligns with existing literature suggesting that older individuals often struggle with digital tools due to less exposure and experience (Hollis, 2018). In contrast, Generation Y teachers exhibited the highest digital competence and the lowest digital anxiety, reflecting their extensive exposure to technology from an early age (Vuorikari et al., 2022). These findings suggest that younger generations, who are more familiar with digital technologies, are more confident and comfortable in using them, thereby experiencing lower levels of anxiety. Among students, seniors exhibited relatively high digital competence and lower anxiety, likely due to their longer exposure to academic digital tools (Means et al., 2014). Conversely, freshmen reported the lowest digital competence and the highest anxiety, indicating challenges in adapting to digital academic environments (Selwyn, 2011). These results underscore the importance of early and consistent exposure to digital tools in building competence and reducing anxiety.

5.2 Interaction Between Digital Competence and Anxiety (RH2)

The significant negative correlation between digital competence and digital anxiety, as shown in Table 5 and Table 6, highlights the critical role of digital skills in improving anxiety. This finding is consistent with previous research indicating that increased digital competence can promote confidence and comfort with technology, thereby reducing anxiety (Hollis, 2018; Korte et al., 2020). The regression analysis further supports this by showing that digital competence is a significant predictor of digital anxiety, accounting for 31% of the variance in anxiety scores. These results reinforce the need for educational interventions that focus on building digital skills to reduce anxiety and enhance overall digital literacy (Selwyn, 2011).

5.3 Influence of Digital Competence and Anxiety on Digital Identity (RH3)

Thematic analysis of semi-structured interviews revealed that digital competence significantly influences digital identity. Teachers and students with high digital competence reported more cohesive and confident digital identities, actively managing their online presence. This finding associates with studies suggesting that digital competence allows individuals to organize their digital identities more effectively, enhancing their ability to present themselves in desirable ways across various platforms (Jones & Hafner, 2012). For instance, a Generation Y teacher (Excerpt 2) stated, "I feel quite comfortable using various platforms, and I think it shows in how I present myself online."

Contrarywise, high digital anxiety led to fragmented or underdeveloped digital identities, with participants avoiding digital platforms and expressing discomfort with online interactions. This avoidance behavior is consistent with findings by Buchanan et al. (2017) and Elhai et al. (2017), who noted that digital anxiety can lead to reduced participation in digital environments and hinder the development of a cohesive digital identity. For example, a Generation X teacher (Excerpt 3) mentioned, "I find it really stressful to manage my digital presence...".

5.4 Impact on Online English Language Education (RH4)

The focus-group interviews provided detailed insights into how digital competence, anxiety, and identity impact the quality of online English language education. Teachers with high digital competence were able to integrate technology effectively into their teaching, creating engaging and interactive learning experiences. This connects with previous research highlighting the benefits of digital tools in promoting active learning and student engagement (Hodges et al., 2020). For instance, a Generation Y teacher (Excerpt 6) remarked, "Using digital tools has allowed me to make my classes more interactive and engaging." On the other hand, digital anxiety hindered the use of digital tools, impacting teaching quality. That is, teachers with high digital anxiety often avoided using new technology due to fear of it not working properly and disrupting the class, as noted by a Baby Boomer teacher (Excerpt 7). This hesitation can limit the exposure of students to diverse learning modalities, thereby affecting their overall learning experience (Selwyn, 2011).

For students, the results reported that those with high digital competence managed online resources well, collaborated effectively, and presented their digital selves confidently. This competence facilitated better engagement with digital learning materials, improved participation in online discussions, and enhanced overall academic performance. For example, a junior student (Excerpt 8) explained, "I can easily find resources and collaborate with my classmates online." However, students with high digital anxiety reported difficulties in online assignments and participation, negatively affecting learning outcomes. A sophomore student (Excerpt 9) expressed, "I get really stressed out with online assignments…"

The interplay between digital competence, digital anxiety, and digital identity was also evident in how participants perceived their roles and identities in the digital learning environment. Teachers with high digital competence felt more confident in their professional identity, aligning with research suggesting that digital competence can positively influence professional identity and self-efficacy (Jones & Hafner, 2012). In contrast, high digital anxiety led to a fragmented or negative digital identity, with some teachers feeling inadequate or out of touch with current educational practices.

5.5 Implications for Practice

Finally, the results underscored the need for targeted interventions to enhance digital skills and reduce anxiety in educational settings. For teachers, professional development programs that enhance digital competence and provide psychological support may help them manage their professional and personal digital identities more effectively (Ertmer & Ottenbreit-Leftwich, 2010). Such programs can improve digital anxiety and promote a more integrated and positive digital identity, thereby enhancing teaching quality and engagement with students.

For students, integrating digital literacy into the curriculum and providing ongoing support can help them control and manage their digital identities confidently (Hargittai, 2010). It is believed that structured digital literacy programs and support systems are essential for freshmen and other students who might struggle with digital anxiety. These initiatives can facilitate better engagement with digital learning materials, improve participation in online discussions, and enhance overall academic performance.

6. Limitations of the Study and Recommendations for Further Research

This study has some limitations that should be acknowledged. First, the participant size, while adequate for initial insights, may not be representative of all teachers and students within similar educational contexts. Future research should consider larger and more diverse samples to enhance generalizability. Second, the study was conducted within a single university in Thailand, which may limit the applicability of findings to other cultural or institutional contexts. Expanding the research to multiple institutions and regions could provide a more comprehensive understanding of the issues examined. Third, the reliance on self-reported data through questionnaires and interviews may introduce biases such as social desirability bias, where participants may respond in ways they believe are expected rather than reflecting their true feelings or behaviors. Future studies could incorporate observational methods or longitudinal designs to triangulate self-reported data and capture changes over time. Additionally, the study focused on digital competence, anxiety, and identity without considering other potentially influential factors such as socio-economic status, prior exposure to technology, and support systems. Including these variables in future research could provide a more detailed understanding of the interplay between digital competence, anxiety, and identity. Finally, while the study provided insights into the impact of digital competence and anxiety on educational outcomes, it did not explore the specific strategies that teachers and students use to cope with digital anxiety or enhance their digital competence.

Further research could investigate these strategies, providing actionable recommendations for educators and policymakers.

7. Conclusion

This study investigated the varying levels of digital competence and digital anxiety among teachers and students, the relationship between these variables, and their impact on digital identities and the quality of online English language education. The results revealed significant differences in digital competence and anxiety across different generational and academic groups, with younger teachers and senior students exhibiting higher digital competence and lower digital anxiety. Conversely, older teachers and freshmen students experienced higher digital anxiety. The study also established a significant negative correlation between digital competence and digital anxiety, highlighting the importance of enhancing digital skills to reduce anxiety. The thematic analysis of semi-structured interviews and focus-group discussions illustrated how digital competence and anxiety influence digital identities, with higher competence leading to more cohesive and confident digital identities, while higher anxiety resulted in fragmented or underdeveloped digital identities. Furthermore, the interplay between digital competence, anxiety, and identity was shown to significantly affect the quality of online English language education. Teachers and students with higher digital competence experienced more positive educational interactions and outcomes, while digital anxiety hindered effective teaching and learning. These findings underscore the need for comprehensive digital literacy programs that address both digital competence and anxiety. By enhancing digital skills and providing psychological support, educational institutions can help teachers and students develop positive digital identities, leading to improved educational outcomes and a more inclusive learning environment. Future research should expand the scope to include larger and more diverse samples, incorporate additional variables, and explore coping strategies to provide a more detailed understanding of digital competence and anxiety. By addressing these areas, future studies can contribute to the development of targeted interventions that support digital literacy and well-being in educational settings.

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Authors' contributions

This study was solely conducted by the author, who was responsible for the study design, data collection, analysis, and manuscript drafting. The author also revised and finalized the manuscript. No other individuals contributed to the study, and there are no special agreements concerning authorship.

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Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

This study was approved by the Human Ethics Committee (HEC) of the University of Phayao, Thailand. All participants were informed about the purpose of the research and provided their informed consent before taking part in the study.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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Appendix A

Digital Competence Questionnaire for Teachers of English Language

Digital Competence Questionnaire for Teachers of English Language

Adapted from the DigComp 2.1 Framework (2017)

Welcome to the Digital Competence Questionnaire for Teachers of English Language. This questionnaire is designed to assess your digital skills and competencies in various areas that are crucial in today's technologically advanced educational environment.

Purpose: The primary aim of this survey is to gather insights into the current level of digital competence among English language teachers. This information will be instrumental in identifying areas where support and training are needed, and in developing targeted educational programs and resources to enhance digital literacy.

Confidentiality: Please be assured that all responses will be treated with the utmost confidentiality. The data collected will only be used for the purposes of educational research and development. No individual respondent will be identifiable in any reports or publications resulting from this survey.

Importance of Your Participation: Your participation is vital in helping us understand the digital landscape in English language education. The insights gained from your responses will directly contribute to improving digital literacy and teaching methods, benefiting both teachers and students in the field.

Instructions: The questionnaire is divided into two parts. The first part collects background information, and the second part asks you to rate your proficiency in various digital competences. Please answer all questions to the best of your ability.

Thank you for taking the time to complete this questionnaire.

Your input is highly valuable and greatly appreciated.

Version 2

Date 31/01/2567

Part 1: Background Information

1. Name and Surname: _____
2. Age: _____ (years)
3. Gender:
   ( ) Male ( ) Female ( ) Prefer not to say ( ) Other: _____
4. Years of Teaching Studying Experience (if applicable): _____ (years)
5. Level of Current Education:
   ( ) Bachelor's Degree ( ) Master's Degree ( ) Doctorate or Higher
6. Frequency of Digital Devices Language Use:
   ( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely
7. Frequency of English Language Use:
   ( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely

Part 2: Digital Competence

Please rate your proficiency in each competence element on a scale of 1 to 5

1 – Not proficient at all 2 – Slightly proficient 3 – Moderately proficient
4 – Very proficient 5 – Highly proficient

Version 2

Date 31/01/2567

Competence Areas	Elements	Please rate your proficiency				
		1	2	3	4	5
1. Information and data literacy: Understanding, evaluating, and working with digital information and data.	**1. Browsing, searching, and filtering data, information, and digital content** Example: Using search engines to find relevant articles, filtering search results.					
	2. Evaluating data, information, and digital content Example: Critically analyzing the reliability of different sources.					
	3. Managing data, information, and digital content Example: Using cloud storage to organize files, backing up important documents.					
2. Communication and collaboration: Engaging and working with others through digital technologies.	**4. Interacting through digital technologies** Example: Participating in video conferences, using messaging apps.					
	5. Sharing information and content through digital technologies Example: Posting articles on social media, sharing educational resources online.					
	6. Engaging in citizenship through digital technologies Example: Engaging in online community forums, digital voting.					
	7. Collaborating through digital technologies Example: Collaborative document editing, using project management software.					
	8. Netiquette Example: Being respectful in emails, understanding the tone in digital communication.					
	9. Managing digital identity Example: Maintaining professional profiles on social media.					
3. Digital content creation: Creating and editing digital materials.	**10. Developing digital content** Example: Writing blog posts, creating digital presentations.					
	11. Integrating and re-elaborating digital content Example: Editing a video using clips from different sources.					
	12. Copyright and licences Example: Respecting intellectual property rights, using open-source materials.					
	13. Programming Example: Developing a simple website, creating a computer program.					
4. Safety: Ensuring safety and security in the digital environment.	**14. Protecting devices** Example: Installing antivirus software, updating operating systems.					
	15. Protecting personal data and privacy Example: Using strong passwords, being aware of privacy settings.					
	16. Protecting health and well-being Example: Following ergonomic guidelines, taking breaks from screen time.					
	17. Protecting the environment Example: Recycling electronic waste, reducing energy consumption of devices.					
5. Problem solving: Addressing challenges and finding solutions using digital technologies.	**18. Solving technical problems** Example: Troubleshooting a non-functioning app, fixing a hardware issue.					
	19. Identifying needs and technological responses Example: Using a project management tool to improve team efficiency.					
	20. Creatively using digital technologies Example: Using digital tools to create art, finding new ways to engage students online.					
	21. Identifying digital competence gaps Example: Seeking training in unfamiliar software, staying updated with new digital trends.					

Appendix B

Digital Competence Questionnaire for Students of English Language

Digital Competence Questionnaire for Students of English Language

Adapted from the DigComp 2.1 Framework (2017)

Welcome to the Digital Competence Questionnaire for Students of English Language. This questionnaire is designed to assess your digital skills and competencies in various areas that are crucial in today's technologically advanced educational environment.

Purpose: The primary aim of this survey is to gather insights into the current level of digital competence among English language students. This information will be instrumental in identifying areas where support and training are needed, and in developing targeted educational programs and resources to enhance digital literacy.

Confidentiality: Please be assured that all responses will be treated with the utmost confidentiality. The data collected will only be used for the purposes of educational research and development. No individual respondent will be identifiable in any reports or publications resulting from this survey.

Importance of Your Participation: Your participation is vital in helping us understand the digital landscape in English language education. The insights gained from your responses will directly contribute to improving digital literacy and teaching methods, benefiting both and students in the field.

Instructions: The questionnaire is divided into two parts. The first part collects background information, and the second part asks you to rate your proficiency in various digital competences. Please answer all questions to the best of your ability.

Thank you for taking the time to complete this questionnaire.

Your input is highly valuable and greatly appreciated.

Version 2

Date 31/01/2567

Part 1: Background Information

1. Name and Surname _____

2. Student ID_____

3. Age: _____ (years)

4. Gender:

( ) Male ( ) Female ( ) Prefer not to say ( ) Other: _____

5. Years of Studying Experience (if applicable): _____ (years)

6. Year of Study:

( ) First ( ) Second ( ) Third ( ) Fourth ( ) N/A

7. Frequency of Digital Devices Language Use:

( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely

8. Frequency of English Language Use:

( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely

Part 2: Digital Competence

Please rate your proficiency in each competence element on a scale of 1 to 5

1 – Not proficient at all 2 – Slightly proficient 3 – Moderately proficient

4 – Very proficient 5 – Highly proficient

Version 2

Date 31/01/2567

Competence Areas	Elements	Please rate your proficiency				
		1	2	3	4	5
1. Information and data literacy: Understanding, evaluating, and working with digital information and data.	1. Browsing, searching, and filtering data, information, and digital content Example: Searching online databases for academic papers or filtering search results for course-related materials.					
	2. Evaluating data, information, and digital content Example: Assessing the credibility of sources for a research project or essay.					
	3. Managing data, information, and digital content Example: Using cloud services to store and organize lecture notes and assignments.					
2. Communication and collaboration: Engaging and working with others through digital technologies.	4. Interacting through digital technologies Example: Participating in online class discussions or group chats.					
	5. Sharing information and content through digital technologies Example: Sharing study materials or group project updates online.					
	6. Engaging in citizenship through digital technologies Example: Participating in educational forums or online student government elections.					
	7. Collaborating through digital technologies Example: Working on group projects using collaborative tools like Google Docs.					
	8. Netiquette Example: Using appropriate language and tone in academic discussion forums.					
	9. Managing digital identity Example: Managing personal academic profiles on university portals or LinkedIn.					
3. Digital content creation: Creating and editing digital materials.	10. Developing digital content Example: Creating digital presentations or academic posters.					
	11. Integrating and re-elaborating digital content Example: Compiling various multimedia sources for a project report.					
	12. Copyright and licenses Example: Understanding academic plagiarism rules and using licensed resources correctly.					
	13. Programming Example: Simple coding for a class project or personal blog.					
4. Safety: Ensuring safety and security in the digital environment.	14. Protecting devices Example: Installing security software on personal devices used for study.					
	15. Protecting personal data and privacy Example: Managing privacy settings on educational platforms.					
	16. Protecting health and well-being Example: Implementing ergonomic practices in a home study setup.					
	17. Protecting the environment Example: Efficient energy usage of computers and other study devices.					
5. Problem solving: Addressing challenges and finding solutions using digital technologies.	18. Solving technical problems Example: Resolving issues with online learning platforms.					
	19. Identifying needs and technological responses Example: Utilizing apps to organize study schedules or track assignment deadlines.					
	20. Creatively using digital technologies Example: Utilizing graphic design software for class projects or creating digital mind maps for study notes.					
	21. Identifying digital competence gaps Example: Identifying areas for improvement in digital skills relevant to academic tasks, like seeking help in using advanced features of data analysis software.					

Appendix C

Digital Anxiety Questionnaire for Teachers of English Language

Digital Anxiety Questionnaire for Teachers of English Language

Adapted from the Hall (2020)

Welcome to **"the Digital Anxiety Questionnaire for Teachers of English Language"**. This survey is part of an important initiative to understand and address the impact of digital technology on our emotional well-being and work-life balance.

Purpose: The aim of this questionnaire is to explore various aspects of digital anxiety that may affect individuals in their professional and personal lives. By identifying common stressors related to digital device usage, online interactions, and the pressures of maintaining a digital presence, we hope to develop strategies and support systems that can alleviate these anxieties.

Confidentiality: Please be assured that your responses will be kept strictly confidential. The information collected will be used solely for research purposes and to inform the development of effective support mechanisms. Individual responses will not be identifiable in any report or publication derived from this survey.

Importance of Your Participation: Your honest and thoughtful responses are crucial. By sharing your experiences, you are contributing valuable insights that can lead to meaningful changes in how we use digital technology and manage its impact on our lives.

Instructions: The questionnaire consists of two parts. The first part gathers some basic background information, and the second part asks you to rate your level of anxiety in different scenarios related to digital technology use. Please answer each question based on your experiences in the past month.

Thank you for participating in this important survey.
Your input is vital in helping us understand and improve the digital experience for educators and learners in the field of English Language.

Version 2

Date 31/01/2567

Part 1: Background Information

1. Name and Surname: _____
2. Age: _____ (years)
3. Gender:
   ( ) Male ( ) Female ( ) Prefer not to say ( ) Other: _____
4. Years of Teaching English Experience (if applicable): _____ (years)
5. Level of Current Education:
   ( ) Bachelor's Degree ( ) Master's Degree ( ) Doctorate or Higher
6. Frequency of Digital Devices Language Use:
   ( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely
7. Frequency of English Language Use:
   ( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely

Part 2: Digital Anxiety

Please read each statement regarding your experiences with digital technology and indicate how often you have felt this way in the past month by selecting the corresponding number.

Rating Scale:

0 – Never 1 – Rarely 2 – Sometimes 3 – Often 4 – Always

Version 2

Date 31/01/2567

Anxiety Areas	Elements	Please rate your anxiety				
		0	1	2	3	4
1. Availability Stress:	1. Feeling overwhelmed by the need to check and respond to student emails and messages outside of school hours. Example: A teacher feeling pressured to reply to student queries late at night.					
	2. Anxiety about being always reachable for school-related communications. Example: A teacher worried about having to respond to school administration or parents at any time.					
	3. Stress from balancing digital communication for work with personal life. Example: Struggling to separate time for grading papers online from family time.					
2. Approval Anxiety:	4. Concern about the reception of your professional posts or shares on educational networks. Example: A teacher anxious about the feedback on their teaching methods shared on a professional forum.					
	5. Worrying about engagement with your educational posts or content. Example: Concerned about the lack of response to a shared article on a teaching technique.					
	6. Anxiety over being judged by colleagues based on your online professional contributions. Example: Feeling judged by peers for the digital teaching resources you share.					
3. Fear of Missing Out:	7. Concern about missing out on professional development opportunities if not constantly connected. Example: Worrying about missing an important webinar or online training session.					
	8. Feeling left out when seeing colleagues' professional achievements online. Example: Discomfort on seeing other teachers receive accolades for their digital teaching initiatives.					
	9. Worry about not keeping up with the latest educational technology trends. Example: Stress about not being proficient in the latest online teaching tools.					
4. Connection Overload:	10. Overwhelmed by the volume of digital communications related to teaching. Example: Struggling to manage a flood of emails, school notices, and digital lesson plans.					
	11. Stress from managing multiple digital platforms for teaching. Example: Juggling between various educational apps, grading systems, and communication tools.					
	12. Fatigue from continuous online interaction with students and faculty. Example: Feeling drained from back-to-back virtual meetings and online classes.					
5. Cost of Caring:	13. Emotional drain from maintaining a professional online presence as a teacher. Example: The pressure to constantly update and manage a professional teaching profile.					
	14. Concern over the impact of digital communication on personal well-being. Example: Worrying about the stress caused by continuous digital engagement affecting personal health.					
	15. Anxiety from needing to respond empathetically in professional digital communications. Example: The pressure to always be supportive and understanding in online interactions with students and parents.					

Appendix D

Digital Anxiety Questionnaire for Students of English Language

Digital Anxiety Questionnaire for Students of English Language

Adapted from the Hall (2020)

Welcome to **"the Digital Anxiety Questionnaire for Students of English Language"**. This survey is part of an important initiative to understand and address the impact of digital technology on our emotional well-being and work-life balance.

Purpose: The aim of this questionnaire is to explore various aspects of digital anxiety that may affect individuals in their professional and personal lives. By identifying common stressors related to digital device usage, online interactions, and the pressures of maintaining a digital presence, we hope to develop strategies and support systems that can alleviate these anxieties.

Confidentiality: Please be assured that your responses will be kept strictly confidential. The information collected will be used solely for research purposes and to inform the development of effective support mechanisms. Individual responses will not be identifiable in any report or publication derived from this survey.

Importance of Your Participation: Your honest and thoughtful responses are crucial. By sharing your experiences, you are contributing valuable insights that can lead to meaningful changes in how we use digital technology and manage its impact on our lives.

Instructions: The questionnaire consists of two parts. The first part gathers some basic background information, and the second part asks you to rate your level of anxiety in different scenarios related to digital technology use. Please answer each question based on your experiences in the past month.

Thank you for participating in this important survey.
Your input is vital in helping us understand and improve the digital experience for educators and learners in the field of English Language.

Version 2

Date 31/01/2567

Part 1: Background Information

1. Name and Surname _____

2. Student ID_____

3. Age: _____ (years)

4. Gender:
( ) Male ( ) Female ( ) Prefer not to say ( ) Other: _____

5. Years of Studying Experience (if applicable): _____ (years)

6. Year of Study:
( ) First ( ) Second ( ) Third ( ) Fourth ( ) N/A

7. Frequency of Digital Devices Language Use:
( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely

8. Frequency of English Language Use:
( ) Daily ( ) Weekly ( ) Monthly ( ) Rarely

Part 2: Digital Anxiety

Please read each statement regarding your experiences with digital technology and indicate how often you have felt this way in the past month by selecting the corresponding number.

Rating Scale:
0 – Never 1 – Rarely 2 – Sometimes 3 – Often 4 – Always

Version 2

Date 31/01/2567

Anxiety Areas	Elements	Please rate your anxiety				
		0	1	2	3	4
1. Availability Stress:	1. Feeling overwhelmed by constant notifications and messages related to schoolwork. Example: Students feeling pressured to respond immediately to group project chats late into the night.					
	2. Anxiety about being constantly available for academic communications. Example: Stress over needing to check emails regularly for fear of missing important updates from professors.					
	3. Stress from balancing online classes and personal life. Example: Struggling to separate study time from personal activities while attending virtual classes from home.					
2. Approval Anxiety:	4. Concern about the reception of your academic posts or contributions in study groups. Example: Worrying if peers will positively perceive the contributions made in online study forums.					
	5. Worrying about engagement with your posts in academic forums or groups. Example: Feeling anxious about the number of likes or comments on a posted question in a class discussion forum.					
	6. Anxiety over being judged by peers based on your online academic presence. Example: Concern about how classmates perceive you based on your participation in online study groups.					
3. Fear of Missing Out:	7. Concern about missing out on important academic updates or opportunities. Example: Fear of not being online and missing critical announcements from the university.					
	8. Feeling left out when seeing peers' achievements or activities online. Example: Feeling inadequate when seeing classmates share their academic successes on social media.					
	9. Worry about not keeping up with the latest digital tools or trends for studying. Example: Stress about not being familiar with the latest educational apps or online resources.					
4. Connection Overload:	10. Overwhelmed by the volume of digital academic communications. Example: Struggling with the constant flow of emails, assignment notifications, and online discussions.					
	11. Stress from managing multiple digital platforms for study purposes. Example: Juggling between different educational portals, e-learning platforms, and communication apps.					
	12. Fatigue from continuous online study sessions without adequate breaks. Example: Exhaustion from back-to-back virtual lectures and online study sessions.					
5. Cost of Caring:	13. Emotional drain from maintaining an active and engaging online student presence. Example: Pressure to constantly participate and show engagement in virtual classrooms and online forums.					
	14. Concern over the impact of digital communications on mental health. Example: Worrying about how the stress from constant digital engagement affects overall well-being.					
	15. Anxiety from needing to constantly participate and respond in online academic discussions. Example: Feeling pressured to always contribute and be supportive in online class discussions.					

Appendix E

Examples of Semi-Structured Interview Questions

1. **For Teachers:**
   - How do you perceive your own digital competence in relation to your teaching practices?
   - Can you describe any challenges you have faced with digital technologies in your professional role?
   - How has the transition to online English language teaching affected your approach to education?
   - Beyond basic competencies, how do you continue to develop and update your digital skills to stay relevant in the evolving educational landscape?
   - Can you share an instance where integrating digital technology in your teaching led to a significant change in student engagement or learning outcomes?
   - How do you balance the use of traditional teaching methods with digital technologies in your classroom?
   - What kind of support or resources do you think would enhance your ability to use digital tools more effectively in teaching English?
   - How do you assess the digital literacy of your students, and how does this impact your teaching methods?

2. **For Students:**
   - How comfortable do you feel using digital technologies for learning English?
   - What are your experiences with online English language classes in terms of engagement and learning effectiveness?
   - Can you share any specific experiences where digital technology significantly impacted your language learning process?
   - Are there particular digital platforms or tools that you find more effective for learning English? Why?
   - Can you describe how digital technologies have influenced your collaboration and interaction with peers in learning English?
   - What challenges do you face when using digital tools for language learning, and how do you overcome them?
   - How does the use of digital media (like movies, podcasts, etc.) supplement your English learning experience?
   - Do you believe your digital skills have improved through your English language education? Can you give an example?

Appendix F

Examples of Focus Group Questions

1. **General Questions for Both Teachers and Students:**
   - In your opinion, what are the key factors that influence digital competence in the context of English language education?
   - How do you think digital anxiety affects the learning and teaching process in English language education?
   - What role do you think digital literacy plays in enhancing overall language competencies in English?
   - How has the shift to more digital-centric education influenced your perception of the value and effectiveness of English language education?
2. **Specific Questions:**
   - For Teachers:
     - How do you integrate digital tools in your teaching, and what challenges do you face in doing so?
     - In what ways do you think the education system should evolve to better support the integration of digital technologies in English teaching?
   - For Students:
     - How do digital technologies facilitate or hinder your English language learning, especially in terms of motivation and understanding?
     - How does the availability of digital resources influence your choice and approach to learning English?