VIETNAM JOURNAL OF EDUCATION, 2025
Volume 9, Issue 2, 238-252
https://doi.org/10.52296/vje.2025.473

ORIGINAL ARTICLE

Digital Competence of English Lecturers in Vietnam

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Article history
Received: 03 October, 2024
Accepted: 20 June, 2025
Published: 29 June, 2025

Keywords
Digital competence, Digital Competence of Educators (DCE) Framework, English lecturers, digital technologies

ABSTRACT
Nowadays, technology plays a significant role in education, making it essential for teachers, particularly at the higher education level, to be evaluated on their digital competencies (DCs) to meet the demands of modern teaching and learning. This study employs a mixed-methods approach with survey questionnaires and interviews to examine the DCs and the implementation of digital technologies in the English teaching of 51 English lecturers across different universities in Vietnam based on the digital competencies of Educators (DCE) model. The research results show that the majority of lecturers perceived themselves as possessing a high level of DCs with the highest proficiency in the area of Professional Engagement and the lowest in Assessment. Additionally, there are no significant differences in DCs scores across genders, teaching experience and qualifications. However, in terms of age, younger lecturers demonstrate stronger DCs while those older might need additional support. In practice, the teachers acknowledged that digital tools play a crucial role in modern English teaching, but requires careful consideration, preparation, and adaptability to overcome the challenges and achieve efficiency. The study findings contribute to the ongoing discourse on teachers' DCs and offer suggestions for educational policymakers, curriculum developers, and teacher training programs to enhance teaching and learning outcomes.

1. INTRODUCTION

In today's digital era, language learners have access to a wealth of online resources and tools that significantly enhance their learning experiences and outcomes. Digital technologies (DTs) provide a myriad of multimedia content, interactive simulations, and online databases, enabling learners to explore subjects in a more engaging and creative manner than traditional approaches (Abdulrahaman et al., 2020). Krumsvik (2011) describes this skill in using information and communication technologies (ICT) in a teaching context, combined with sound pedagogical judgement and an understanding of its impact on learning strategies, as digital competences (DCs). Therefore, educators who are digitally literate possess the ability to read and use multimedia, understand hypermedia texts, locate and critically assess information, and collaborate effectively to communicate that information (Pettersson, 2018). DCs are shaped by both personal factors (self-confidence in using ICT, age, gender, etc.) and contextual factors (curriculum requirements, years of teaching experience, infrastructure, etc.) (Benali et al., 2018). By enhancing their DCs, language educators can gain access to a wide variety of multimedia resources that can be used to enhance the quality and diversity of their teaching materials and to develop engaging and dynamic learning environments (Biletska et al., 2021). Furthermore, DCs empower language educators to foster learner autonomy, enabling students to self-study language skills, access authentic language resources, and participate in online learning

communities (Lavolette, 2022). Evaluating teachers' DCs is hence crucial to identify their strengths and areas that need further improvement and training.

The Digital Competencies of Educators (DCE) framework, developed by the European Commission, is a comprehensive tool for assessing educators' DCs across six key areas: professional engagement, digital resources, teaching and learning, assessment, empowering learners, and promoting learners' DCs (Caena & Redecker, 2019). This framework provides a scientifically based structure that outlines the specific DCs needed by educators across various educational levels, including pre-kindergarten, higher education, adult education, vocational training, special needs education, and informal learning environments (Caena & Redecker, 2019; Redecker, 2017). It includes 22 DCs, focusing on the pedagogical application of digital technologies in training, teaching, learning, and assessment, rather than just technical skills. Among its various usages, many countries utilize this framework to inform and guide teacher training policies (Siqueira & Vasconcelos, 2023), drive further research, and lay a foundation for developing new models (Tiede, 2020).

Numerous studies have deployed this framework to explore teachers' DCs in different countries, such as Morocco (Benali et al., 2018), Saudi Arabia (Althubyani, 2024), and Indonesia (Limbong & Wadham, 2024; Sumarni et al., 2023), teaching different subjects at primary schools (Nguyen et al., 2023) and secondary schools (Pham & Vu, 2024), teaching science from elementary to high schools (Althubyani, 2024), and teaching English (Benali et al., 2018; Dai, 2023; Limbong & Wadham, 2024; Sumarni et al, 2023). However, the topic of teachers' DCs has received scant attention in the research community in Vietnam, with only two studies being conducted using a quantitative research design with a survey as the main data collection instrument (Nguyen et al., 2023; Pham & Vu, 2024). Particularly, there have been no attempts to investigate teachers' DCs in Vietnamese higher education contexts, which calls for further studies in this area using a mixed-methods approach to offer a more comprehensive picture of the levels and features of university lectures' DCs. Additionally, because "language teachers today are faced with so many fascinating options for using technology to enhance language learning that it can be overwhelming" (Kessler, 2018, p. 205), it is of utmost importance to shed light on the nature of their DCs, as a way to make further recommendations for teacher training on enhancing this set of skills. To bridge these research gaps, this study thus aims to investigate the self-perceptions of English lecturers in Vietnam on their level of DCs, the relationship between lecturers' gender, age, qualifications, years of teaching experience, level of DCs and their implementation of digital technologies in teaching English. To meet these objectives, this study seeks to answer the following research questions (RQs):

- RQ1: *What are the self-perceptions of English lecturers in Vietnam about their level of DCs?*
- RQ2: *Is there any relationship between gender, age, qualifications, years of teaching experience and the self-perceptions of English lecturers in Vietnam about their level of DCs?*
- RQ3: *How do English lecturers in Vietnam use digital technologies in their English classes?*

2. LITERATURE REVIEW

2.1. Digital competencies (DCs)

DCs encompasses a wide range of skills and knowledge necessary for effectively interacting with DTs. In education, DCs are described as the ability to navigate different digital platforms, choose appropriate online resources, communicate effectively through digital channels, and use various learning materials (Ilomäki et al., 2016). More specifically, DCs include technical and operational skills, pedagogical capabilities (such as using technology for learning and daily activities), cognitive skills (such as evaluating, searching, creating, and critically analysing digital information), and socio-emotional competencies (such as using ICT for responsible communication, teamwork, and other social learning goals) (Ng, 2012). Therefore, Falloon (2020) concludes that DCs go beyond the traditional understanding of a teacher's basic technology knowledge to a more comprehensive concept that comprises the knowledge, skills, and attitudes related to digital aspects.

Teachers' DCs play a crucial role in improving the quality of teaching and learning in today's technology-driven world. Having DCs is essential to increase the integration of technologies into teachers' practices, which ultimately supports sustainable educational development (Tyler-Wood et al., 2018). This is because the effective use of digital technologies by educators is key to creating dynamic and engaging learning environments, enhancing communication and collaboration, and fostering students' critical thinking and problem-solving skills (Cabero-

Almenara et al., 2020). Teachers' DCs are influenced by several factors, with their perceptions of technology and its role in education serving as motivating factors for technology-related activities (Baucus et al., 2014) and predicting technology integration in the classroom (Ottenbreit-Leftwich et al., 2010). These perceptions can be influenced by various aspects, such as teachers' perceptions of the usefulness of technologies (Althubyani, 2024), the type and ease of use of digital tools (Akiry, 2021; Lucas et al., 2021), teachers' self-confidence and competence (Akiry, 2021), and their openness to modern technologies (Lucas et al., 2021). Hence, exploring teachers' self-perceptions of their use of digital technologies is essential to explore their level of DCs with strengths and weaknesses.

By systematically evaluating teachers' DCs, educational leaders can customize professional development programs, provide support, and promote a culture of continuous improvement to assist educators in addressing the growing demands of digital literacy in education (Juan, 2020). Consequently, several models for assessing teachers' DCs have been proposed, including Technological, Pedagogical, and Content Knowledge (TPACK) framework (Koehler & Mishra, 2009), the UNESCO ICT Competency Framework (UNESCO, 2018), and the European Framework for DC of Educators (DCE) (Redecker, 2017). Among these frameworks, DCE has been widely employed to assess teacher DCs because it provides a comprehensive reference for the competencies required for educators to be digitally competent (Redecker & Punie, 2017).

2.2. DCE Framework

According to Redecker (2017), DCE is centred on assessing educators' DCs, identifying their potentials and areas for improvement, and determining the professional development and training needs required for effectively integrating technology into educational processes. This framework is pivotal in shaping digital literacy courses, delineates 22 DCs organised into six domains that collectively address the multifaceted nature of educators' DCs (Redecker, 2017; Redecker & Punie, 2017). First, professional engagement involves utilising DTs for ongoing professional development and effective participation in educational settings. Second, digital resources pertain to developing, adapting, and sharing digital learning materials that align with learning objectives and cater to different learner groups. Third, teaching and learning focus on the use and management of DTs to promote effective instruction and student engagement. Fourth, assessment encourages educators to explore how DTs can improve existing assessment methods and support innovative approaches of assessment. Fifth, empowering learners focuses on how teachers can use DTs to enhance inclusion, personalise learning experiences, and foster active learner participation. Finally, facilitating learners' DCs may equip students to use DTs creatively and effectively for communication, information processing, and problem-solving.

These six areas are categorised into three broader ones which are interconnected: educators' professional competences, educators' pedagogical competencies, and learners' competences. Educators' professional competencies include professional engagement, which covers organisational communication, professional collaboration, reflective practice, and ongoing digital professional development. Pedagogical competencies involve skills related to digital resources, teaching and learning, assessment, and empowering learners. Learners' competencies focus on facilitating their DCs, which encompasses information and media literacy, communication, content creation, responsible usage, and problem-solving. The DCE model outlines various stages or levels of educators' DC development, corresponding to the six proficiency levels of the Common European Framework of Reference for Languages (CEFR), ranging from A1 to C2 (Newcomers (A1) - Explorers (A2) - Integrators (B1) - Experts (B2) - Leaders (C1) - Pioneers (C2)) (Redecker, 2017). It is emphasised that educators should not necessarily strive for mastery at the C2 level but should consistently work on developing their competencies to achieve and maintain the Expert level (B2) (Benali & Azzimani, 2018).

2.3. Related studies

Numerous studies have been conducted using the DCE framework for developing assessment tools and questionnaires to evaluate teachers' level of DCs (Althubyani, 2024; Benali et al., 2018; Pham et al., 2024), and to examine teachers' strengths and weaknesses in DCs (Sumarni et al., 2023). Drawing on the DCE framework, Althubyani's (2024) study investigates the DCs' levels of science teachers in Saudi Arabia, their perceptions of DCE, and the factors influencing their DC competence. Using a mixed-methods approach, which involves administering questionnaires to 611 science teachers and conducting semi-structured interviews with a subsample of 13 teachers, Althubyani (2024) found that the participants had a moderate level of DCs (58.4%) and a high level of positive perceptions towards using DTs (78%). The study reveals that perceived usefulness and subjective norms directly

impact DCs. It also highlights the benefits of DTs, such as increasing student motivation, assessing learning experiences, facilitating communication within the educational community, and encouraging the use of e-learning. However, the study also identifies challenges, including resistance to technology within the educational community, cognitive and skill-related issues teachers faced, administrative and teaching burdens, limited access to DTs, and challenges related to student behaviours.

A search of the relevant literature reveals a scarcity of research on teachers' DCs in the Vietnamese educational context, with only two studies into different educational levels and geographical backgrounds (Nguyen et al., 2023; Pham & Vu, 2024). Drawn upon the DCE questionnaire, Nguyen et al. 's (2023) quantitative research examines 100 primary school teachers' DCs in the northern mountainous areas of Vietnam. This study concludes that a significant majority of primary teachers demonstrated significant progress in integrating digital technology into their teaching process. Specifically, 51% and 27% of the participants achieved the Expert (B2) and Leadership (C1) levels of DCs, respectively. It is also demonstrated that among the 6 areas of the participants' DCs, technology and digital resources exhibited the highest proficiency, followed by their professional development, as opposed to empowering students, which was the lowest-scoring area in DCs. Also, the relationship between teachers' DCs and other factors such as their age and experience is explored in Nguyen et al. 's (2023) study, which indicates an increase in teachers achieving higher levels (from B1 to C1) as their age and experience increases. Despite also using a survey adapted from the DCE model to measure the level of DCs, Pham et al. 's (2024) discovers the DCs of 445 secondary teachers in Hanoi and compares teachers' DCs based on gender and age. These authors suggest that most participants reached a good level (B2) of DCs, with the highest DCs scores in empowering learners and teaching and learning, and the lowest in assessment. Regarding gender and age differences in DCs, while male teachers scored slightly higher in professional engagement and digital resources, females scored higher in empowering learners, and the age group 25-29 exhibited the highest DCs as opposed to teachers under 25.

Likewise, employing questionnaires adapted from DCE to explore teachers' level of DCs and compare teachers' DCs based on their digital teaching confidence, years of teaching experience and gender, Benali et al (2018) focus on a smaller group of participants, 160 Moroccan English teachers, instead of those from various specialisations like Pham et al (2024). Benali et al. (2018) reveal that Moroccan English teachers have a well-distributed range of DC levels. The highest mean scores are observed in areas such as selecting digital resources, teaching, and reflective practice. However, lower scores are noted in more advanced areas like digital assessment strategies, differentiation, personalization, self-regulated learning, and facilitating learners' digital content creation. The research also indicates that teachers with greater confidence in digital teaching and more years of experience tend to have higher DC scores. Additionally, both male and female teachers demonstrate similar levels of competence. Meanwhile, despite working on pre-service English teachers in Indonesia to assess their DCs based on the DCE model, Sumarni et al. (2023) and Limbong and Wadham (2024) focus on examining different aspects of teachers' DCs. While the former looks at the DCs of 102 pre-service language teachers and identifies areas of strength and weakness via questionnaires, the latter describes 30 pre-service English teachers' self-reported abilities and challenges in designing interactive teaching materials through focus group interviews. Sumarni et al (2023) highlight the participants' strengths in organisational communication and professional collaboration, managing digital resources, teaching and learning, empowering learners, facilitating learners' DCs and weaknesses in reflective practice, analysing evidence, and assessment strategies and feedback planning. In Limbong and Wadham's (2024) research, it is demonstrated that pre-service English teachers report an adequate level of competency in designing digital interactive instructional materials in 4 aspects of the DCE framework. The teachers also reported several challenges while creating the teaching materials, mostly related to resources, such as internet connectivity and subscription access.

A literature review reveals there is no published research that examines the DCs of English lecturers in Vietnam comprehensively in terms of their self-evaluation of DC level, the differences of DCs by gender, age, qualifications, years of teaching experience and their experience of using digital technologies in English classes. Hence, the current study aims to bridge this research gap and contribute to the existing literature on the application of the DCE model to examine English teachers' DCs. Research findings are hoped to inform educational policymakers, curriculum developers, and those involved in teachers' professional training programs about the importance of integrating digital skills into educational programs and curricula. Furthermore, the study seeks to highlight the areas where English lecturers in Vietnam excel or struggle in DCs, identify factors that influence their DCs, and examine how digital tools are actually being used in English teaching.

3. MATERIALS AND METHODS

3.1. Research Design

This study employs a mixed-methods approach to investigate the DC of English lecturers in Vietnam. The research design comprises three main stages. The first stage is quantitative, where data are collected through a questionnaire and subsequently analysed. The quantitative data includes brief demographic questions to understand the background of the survey respondents. The second stage is qualitative, involving interviews for data collection, followed by analysis. The qualitative data, gathered from semi-structured interviews, requires lecturers to respond to specific questions. The third stage involves integrating the findings from the first two stages (Creswell, 2021), where the quantitative results provide a preliminary understanding of the research problem, and the qualitative results are then used to provide a deeper interpretation of the quantitative findings.

3.2. Participants

The sample of the study is fifty-one Vietnamese English lecturers from different universities in Vietnam completing the survey. Due to limited time and resources, the participants were recruited with a convenience sampling method. As summarised in Table 1, the demographic data indicates that the respondents are predominantly female, over 35 years old, and highly qualified with a majority holding a Master's degree. Most have substantial teaching experience, with more than 15 years being the most common category. The majority are employed at public universities. After completing the survey, six among 51 lectures were willing to participate in follow-up semi-structured interviews.

Table 1. Demographic Information of the Questionnaire Respondents (N = 51)

Categories	Sub-categories	Frequency	Percentage
Gender	Male	6	11.8
	Female	45	88.2
Age	< 25 years old	6	11.8
	25 - < 30 years old	7	13.7
	30 - < 35 years old	7	13.7
	> 35 years old	31	60.8
Qualification	Bachelor	8	15.7
	Master	31	60.8
	Doctor	12	23.5
Years of teaching	< 5 years	9	17.6
	5 - < 10 years	7	13.7
	10 - < 15 years	16	31.4
	> 15 years	19	37.3
Types of affiliation	Public university	43	84.3
	Private university	8	15.7

3.3. Instruments

3.3.1. Questionnaire

The DC of English lecturers in Vietnam is assessed using the DigCompEdu toolkit, which was adapted to fit the Vietnamese context. This toolkit includes six areas of DC, covering 22 specific DCs, along with additional questions regarding personal information such as gender, age, qualifications, years of experience, and types of affiliation. A 5-point Likert scale is used for English lecturers to self-measure their level of DC, with scores ranging from 1 to 5,

indicating the frequency of each DC (Never = 1, Rarely = 2, Sometimes = 3, Often = 4, and Always = 5). For all items, each scale value corresponds to a level of DC, from basic (A1 and A2) to intermediate (B1 and B2) and advanced (C1 and C2) levels, as per CEFR. The questionnaire was created using Google Forms and distributed online to gather participants' responses. The questionnaire was translated into Vietnamese and reviewed by two translators who were fluent in both English and Vietnamese to ensure content validity on the item's phrasing, clarity and simplicity. The reliability of the questionnaire was verified by calculating the Cronbach's Alpha coefficient, using a preliminary version of the questionnaire applied to a pilot sample of 5 participants. The overall Cronbach's Alpha coefficient was found to be high, at 0.96, with the DC section specifically showing a reliability coefficient of 0.94, ranging from 0.84 to 0.89.

3.3.2. Interview

Semi-structured interviews were designed to gather in-depth information about English lecturers' experiences with using digital technologies in their English classes. Each interview lasted 20 minutes per participant and included seven questions focused on three key aspects: the types of digital tools and technologies used and how they were applied in English classes (questions 1-3), the benefits of using these tools (questions 4-5), and the challenges teachers faced (questions 6-7). The interviews were conducted individually via Zoom. To ensure accuracy and reliability, the interviews were recorded with the participants' consent, then transcribed, summarised, and shared with the participants for verification. For ethical reasons and to maintain confidentiality, each participant was assigned a unique code.

4. RESULTS AND DISCUSSIONS

4.1. Self-perceptions of Vietnamese English lecturers about their level of DC

The average values of the six areas of DC are summarised in Table 2. Of the six competencies, *Professional engagement* (M= 4.08, SD= 0.61) has the highest value, followed by the other competencies such as *Teaching and learning* (M= 4.00, SD= 0.65), *Digital resources* (M= 3.98, SD= 0.54), *Empowering learners* (M= 3.85, SD= 0.71), and *Facilitating learners' DC* (M= 3.80, SD= 0.68). However, the mean scores for *Assessment* were ranked the lowest by the participants (M= 3.75, SD= 0.74). This result is, to some extent, compatible with Pham et al. 's (2024) findings about the DC of secondary school teachers in Vietnam, with the highest average scores recorded in *Empowering learners (M = 3.49),* followed by *Teaching and learning (M = 3.39)* and *Digital resources (M = 3.38)*, and the lowest in *Assessment* (M = 3.17). However, the current research finding seems to be opposed to Sumarni et. al. 's (2023) study on Indonesian pre-service language teachers' DC, which highlights *Professional Engagement* with the lowest score of DC (M = 3.16), and the highest in *Empowering Learner* and *Teaching and Learning* (M = 3.52, M = 3.50, respectively). These studies' findings are far distinct from Althubyani's (2024) on the DC of science teachers in Saudi Arabia with the highest score of DC (M = 3.12) belonging to Digital *resources* while the other DCs being equally low (M < 2.90).

Table 2. The overall teachers' self-perceptions about their DCs

DCs	N	M	SD
Professional Engagement	51	4.09	0.57
Digital resources	51	3.98	0.54
Teaching & Learning	51	4.00	0.65
Assessment	51	3.75	0.74
Empowering learners	51	3.85	0.71
Facilitating learners' DC	51	3.80	0.68
Overall	**51**	**3.91**	**0.65**

Referring to the DCE scale, with levels A1 (mean ≤ 0.83); A2 (0.83 < mean ≤ 1.66); B1 (1.66 < mean ≤ 2.50); B2 (2.50 < mean ≤ 3.32); C1 (3.32 < mean ≤ 4.17); C2 (4.17 < mean ≤ 5.00), the overall results of teachers' DCs are presented in Figure 1. As can be seen, 37,3 % of teachers reached level C2, 43.1% of teachers achieved level C1, while 19.6% were at B2 level, and no teachers were at the A1, A2 and B1 levels. This indicates that most teachers

considered their DC at the "very good" level, comparatively similar to Pham et. al. 's (2024) research showing that most Vietnamese secondary teachers claimed their DC at the B2 (good) level and none at the A1 or A2 levels. Similarly, Benali's (2018) also indicates that the majority of Moroccan English teachers classify their DC level as Integrators (B1) or Experts (B2). In contrast, in Althubyani's (2024) study, the majority of science teachers in Saudi Arabia assess their DC level as "medium".

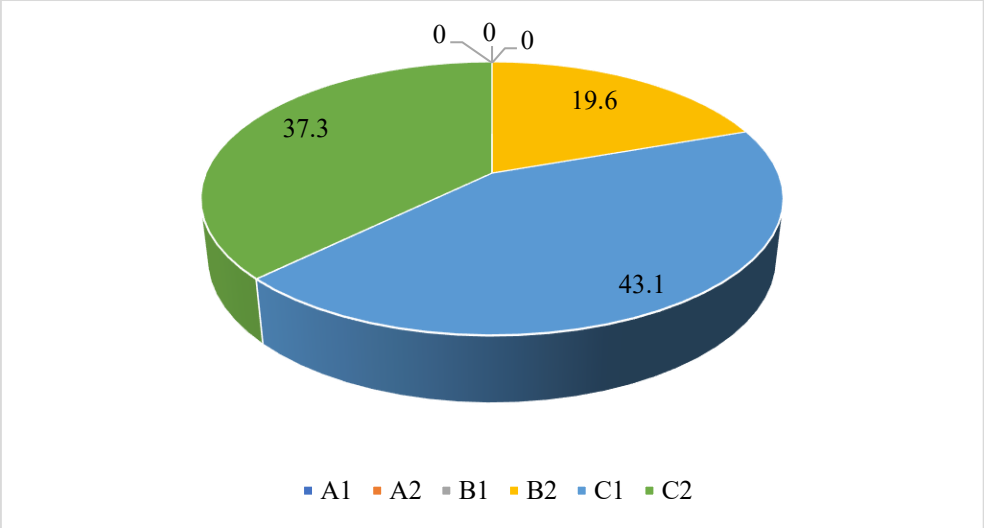

Figure 1. Teachers' level of DCs according to DCE scale

Moreover, the summary of average values for the 22 component digital competencies indicate that the three competencies with the highest values are *Using different digital channels to enhance communication with students, parents and colleagues* (M=4.33); *Using digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experiences and collaboratively innovating pedagogic practices* (M=4.25); *Identifying, assessing and selecting digital resources for teaching and learning* (M=4.20). This finding is totally different from Pham et al.'s (2024), Sumarni et al.'s (2023) and Althubyani's (2024) which indicates the highest DC values being: *Considering how, when and why to use digital technologies in class to ensure that they are used with added value* (M = 3.83), *Considering and responding to learners' (digital) expectations, abilities, uses and misconceptions* (M = 3.71), and *Considering potential technical problems and troubleshooting them when creating digital assignments for learners* (M = 3.55) respectively.

The current study also explores some DCs with the lowest values including *Considering and responding to learners' (digital) expectations, abilities, uses and misconceptions* (M=3.53); *Empowering learners to manage risks and use digital technologies safely and responsibly* (M=3.61); *Using digital technologies to address learners' diverse learning needs* and *Analysing all data available to timely identify students who need additional support* (equally at M=3.65). This result is also different from the previous studies such as Sumarni et al. (2023), Althubyani (2024) and Pham et al. (2024), which shows the lowest achievements being in *Self-assessing DC and proactively enhance personal and educational community DC* (M = 2.88), *Using digital technologies to collaborate, share, and exchange with colleagues both on and off campus* (M = 2.56) and *Using digital platforms (email, school website, applications, etc.) to enhance communication with students, parents, and colleagues* (M = 3.02), respectively.

4.2. The relationship between Vietnamese EFL lecturers' gender, age, years of teaching experience, qualifications and their self-perceived level of DC

The relationship between gender and DC level

The results in Table 3 showed that the Sig. values for all six groups of DC levels of teachers are bigger than 0.05, which means that there is no significant difference between gender and the mean values of DCs, similar to Benali et al.'s (2018) and Pham et al.'s (2024) research result. Although the overall differences in evaluations between males and females are not significant, there are some variations in specific areas. Specifically, males score slightly higher in *Professional Engagement* and *Assessment*, while females lead in *Digital Resources* and *Facilitating Learners' DC*. In the areas of *Teaching & Learning* and *Empowering Learners*, both genders have nearly identical scores. (Cf. Figure 2)

Table 3. ANOVA analysis of the correlation between gender and teachers' DC level

ANOVA		
		Sig.
Professional Engagement	Between Groups	.918
	Within Groups	
	Total	
Digital resources	Between Groups	.087
	Within Groups	
	Total	
Teaching & Learning	Between Groups	.411
	Within Groups	
	Total	
Assessment	Between Groups	.106
	Within Groups	
	Total	
Empowering learners	Between Groups	.202
	Within Groups	
	Total	
Facilitating learners' DC	Between Groups	.186
	Within Groups	
	Total	

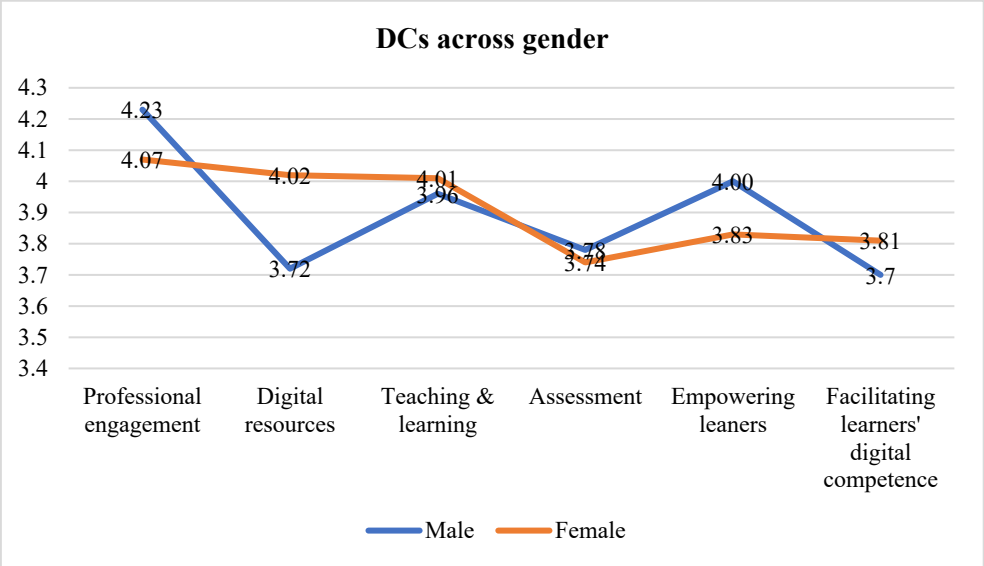

Figure 2. Average values of DCs by genders

The relationship between age and DC level

The ANOVA analysis shows that there is a significant difference in DC scores across different age groups. As in Table 4, the 25 - < 30 age group scores the highest across all criteria, especially in *Professional Engagement* (M=4.21), *Teaching & Learning* (M=4.21), and *Assessment* (M=4.29). This indicates that this group of teachers show the strongest performance in these areas, quite compatible with Pham et al. 's (2024) research findings. The < 25 age group also performs well, particularly in *Empowering Learners* (M=4.14) although their score in *Facilitating Learners' DC* is slightly lower (M=3.83). In contrast, the 30 - < 35 age group has the lowest scores overall, particularly in *Digital Resources* (M=3.50) and *Facilitating Learners' DC* (M=3.29). The > 35 age group shows a balanced performance, with the highest score in *Professional Engagement* (M=4.08) and the lowest in *Assessment* (M=3.63). Overall, younger professionals, especially those aged 25 - < 30, tend to excel in DC while those in the 30 - < 35 age group may need more support.

Table 4. DCs across age groups

Age	Professional Engagement	Digital resources	Teaching & Learning	Assessment	Empowering learners	Facilitating learners' digital competence
< 25	4.06	4.06	4.04	4.00	4.14	3.83
25 - < 30	4.21	4.10	4.21	4.29	4.17	3.97
30 - < 35	4.00	3.50	3.64	3.48	3.45	3.29
> 35	4.08	4.05	4.02	3.63	3.81	3.87

The relationship between teaching experience and DC level

In terms of teaching experience, the ANOVA analysis shows that there is no significant difference in DC scores in terms of teaching experience. This finding contrasts with Benali et al.'s (2018) study which finds that teachers with more years of teaching experience generally show higher levels of DC. As can be seen in Figure 3, the teachers with less than 5 years of experience rated themselves the most competent in most areas. Particularly, they scored the highest in *Professional Engagement* (M=4.14) although the lowest in *Facilitating learners' DC* (M=3.76). The teachers with 5 to less than 10 years of experience had scores close to the less than 5 years group, with high ratings in *Teaching & Learning* (M=4.14) but lower scores in *Digital resources* (3.93). 10 to less than 15 years of experience teachers showed the lowest self-assessed scores, particularly in *Assessment* (3.65). Meanwhile, those with more than 15 years of experience exhibited improvements in some areas, such as *Facilitating learners' DC* (M=3.85), but still had lower scores in *Assessment* (M=3.58). In short, newer teachers tend to rate themselves higher, while more experienced teachers rate themselves lower across most areas. This suggests that teachers with less teaching experience seem to be more confident in using digital technologies in *Assessment* areas.

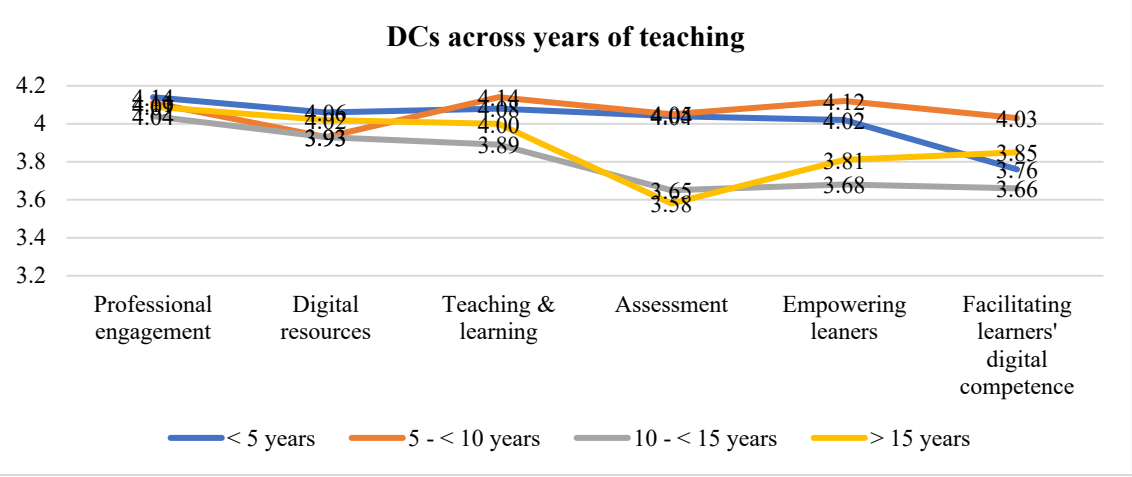

Figure 3. Average values of DCs by teaching experience

The relationship between qualification and DC level

To examine the correlation between DC and qualification, an ANOVA analysis was conducted. The significance values of the six DC groups are bigger than 0.05, showing that the variances between the groups are homogeneous (cf. Table 5). Therefore, further analysis using One-way ANOVA was conducted.

Table 5. Test of homogeneity of variances

	Levene Statistic	df1	df2	Sig.
Professional Engagement	.118	2	48	.889
Digital resources	1.175	2	48	.318
Teaching & Learning	.764	2	48	.471
Assessment	2.385	2	48	.103
Empowering learners	1.068	2	48	.352
Facilitating learners' DC	.474	2	48	.625

As can be seen in Table 6, the Sig values are > 0.05, meaning that there is no significant difference between qualifications and the mean values of six groups of DC, indicating that qualifications do not play a major role in determining DC levels among the participants. However, there are certain differences across the groups. Firstly, Bachelor's degree holders generally score the highest, particularly in *Professional Engagement* (M=4.22), *Teaching & Learning* (M=4.19), and *Assessmen*t (M=4.17). Master's degree holders have the lowest scores across most categories, especially in *Assessment* (M=3.63) and Teaching & Learning (M=3.91). Doctoral degree holders perform in a balanced manner, with scores close to those of Bachelor's degree holders in *Professional Engagement* (M=4.21) and slightly higher in *Empowering Learners* (M=3.85). However, their scores in *Digital Resources* (M=3.97) and *Facilitating Learners' DC* (M=3.77) are relatively lower (Cf. Figure 3).

Table 6. ANOVA analysis of the correlation between qualifications and teachers' DC levels

		Sig.
Professional Engagement	Between Groups	.451
	Within Groups	
	Total	
Digital resources	Between Groups	.658
	Within Groups	
	Total	
Teaching & Learning	Between Groups	.469
	Within Groups	
	Total	
Assessment	Between Groups	.196
	Within Groups	
	Total	
Empowering learners	Between Groups	.371
	Within Groups	
	Total	

Facilitating learners' DC	Between Groups	.980
	Within Groups	
	Total	

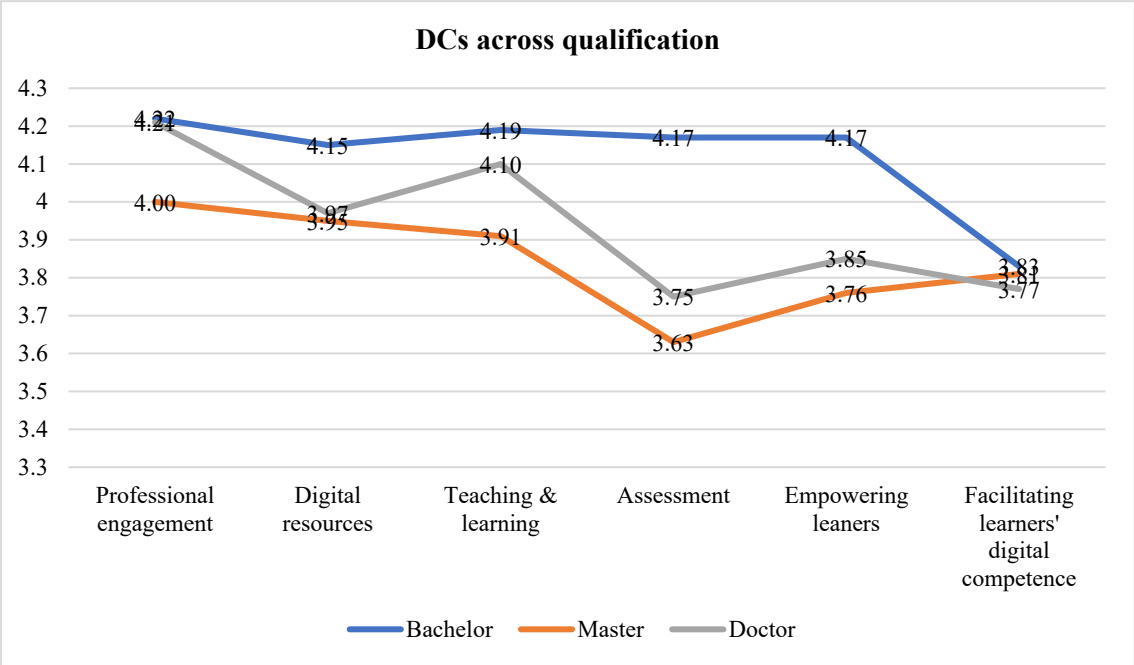

Figure 3. Average values of DCs by qualifications

4.3. How English lecturers in Vietnam use digital technologies in their English classes

The following section elaborately represents the findings obtained from the interviews about Vietnamese tertiary English teachers' use of digital tools and technologies in their classrooms regarding commonly used digital tools, purposes of using digital tools, decision-making in tool selection, benefits of using digital tools, challenges faced and their experiences with digital tools.

Firstly, Quizizz, Kahoot, YouTube, Google Drive, and Zoom are the most commonly used tools thanks to their accessibility and effectiveness in enhancing student engagement. Some other tools employed include Baamboozle, Wordwall, Twee, etc.

Secondly, results from the interviews unfold that the primary motivation for incorporating digital tools into teaching is saving time.

… In my opinion, using these tools can help me save time. I can use other teachers' games. [T6]

… those tools often provide timely/ immediate feedback to support students, which helps save time and reduce my workload. [T3]

In addition, enhancing students' motivation and diversifying learning activities were also highlighted by the teachers. They emphasised the importance of using these technologies to create more interactive and engaging lessons, which helps maintain students' interest and facilitate better understanding.

… You know, using these tools will help diversify my students' learning experience. Moreover, these also help to create the blended learning platforms when students can learn at home also, trigger students' interests. [T2]

…. Well, these help engage and motivate my students to learn. They also make learning fun and become more interactive. [T3]

Some teachers indicated that these digital tools were employed because they are essential for storing and organising teaching materials efficiently.

Thirdly, when being asked about how to decide which digital tools were used for a specific lesson, many teachers claim that they generally select digital tools based on the specific needs of the lesson and the learning objectives they aim to achieve.

… I choose which tool to use based on the purpose of the activities like to engage students, break the ice or to revise the lesson... [T2]

The choice of tools also depends on the activity type, student needs, and the ease of integration into existing lesson plans. For example, tools like Google Drive were chosen for collaborative projects, while Kahoot were preferred for quick assessments [T1; T5; T6].

Regarding the benefits of using digital technologies and tools in teaching English, the interviewed teachers highlighted some key benefits. The first one is time efficiency. Many respondents emphasised the efficiency of saving time in various teaching contexts, from lesson planning to classroom management. Moreover, engaging students is another merit mentioned. Many teachers claimed that digital tools such as Kahoot, Quizizz, and other interactive platforms can make learning more enjoyable and interactive, which helps maintain student interest and motivation. Other advantages of digital and technological uses in the classroom are the enhancement of learning and teaching practices which includes improving classroom management and supporting administrative tasks through tools such as Google Classroom or ClassDojo and the promotion of self-learning and blended learning where students can continue learning outside of the classroom at their own pace, particularly through activities done at home. Last but not least, some teachers affirmed that digital tools also contribute to their professional development by allowing them to explore new teaching methods, improve their DC, and stay updated with the latest educational technologies. Overall, the responses illustrate that digital technologies are not just means for content delivery, but powerful assets in creating a more dynamic, engaging, and effective learning environment.

Despite the benefits that digital tools offer, the teachers admitted that they faced several challenges when using digital tools. The most common issues include technical difficulties, such as unreliable internet connections and the cost of certain tools.

… Some digital tools require a certain expense to get access to their top features, those tools may distract students, ... [T2]

… Some mistakes can happen when using these tools… I encountered a problem using Kahoot for a vocabulary review session in my English class for electrical-electronic engineering students. I had planned to use a digital tool that allowed students to match terms with their definitions interactively. However, during the class, the platform experienced technical difficulties, making it inaccessible. [T1]

Additionally, time constraints and managing student behavior while using these technologies are significant concerns. These challenges require teachers to be adaptable and resourceful in finding solutions during lessons.

If it is not effectively controlled, using those tools can waste time. Students have to log in and then log out, and they can also easily be distracted by pop-up notifications. [T3]

… the planned time for using activities with these tools may be prolonged more than expected. There was a time when I planned this Kahoot game as a warm-up activity. However, it took a really long time for all the students of that class to join. Also, when everyone seemingly had logged into Kahoot, some people lost their internet connection. So that activity cost me a lot of time and of course, I had little time for the coming main activities of the lesson, which later resulted in the insufficient amount of time to deliver the knowledge I intended to teach them. [T2]

Such experiences underscore the importance of preparation and having backup plans to ensure smooth lesson delivery. In conclusion, while digital tools play a crucial role in modern English teaching, their effective use requires careful consideration, preparation, and adaptability to overcome the challenges that may arise.

5. CONCLUSIONS

This study explored the DC of Vietnamese EFL lecturers, employing a mixed-methods approach to assess their self-perceptions of DC and examine the relationship between demographic factors and their DC levels. The findings revealed that Vietnamese English lecturers generally perceive themselves as possessing a high level of DC, with particular strengths in professional engagement, teaching, and learning. The use of digital tools such as Quizizz, Kahoot, and Google Drive is prevalent, with lecturers leveraging these technologies to enhance student engagement,

facilitate communication, and streamline their teaching practices. However, assessment was identified as an area where lecturers feel less competent, suggesting that they may require further training and support to effectively exploit digital technologies for evaluating students' performance. The research also highlights that there is no significant difference in DC across gender, teaching experience, and qualifications. However, age was a factor, with younger lecturers (especially those aged 25 to 30) demonstrating higher DC compared to their older counterparts. This suggests that younger educators may be more adept at integrating digital tools into their teaching, possibly due to greater familiarity with technology.

These study findings have significant implications for educational policymakers, curriculum developers, and teacher training programs in Vietnam. While Vietnamese English lecturers in this study demonstrate a high level of DC, particularly in professional engagement and teaching, there is a clear need for continuous support in the area of digital assessment. Addressing this gap through professional development programs will be crucial in ensuring that lecturers can fully harness the benefits of digital technologies to enhance both teaching and learning outcomes. This could involve workshops or courses focused on best practices for digital assessment, integrating formative and summative assessment tools into digital learning environments, and using data analytics to inform teaching practices. Moreover, the study underscores the importance of continuous professional development to keep pace with technological advancements. Finally, a further implication to enhance English teachers' DC should be to pay attention to both personal factors like ICT self-efficacy, and contextual factors like collegial collaboration and infrastructural support. Dai's (2023) study on English pre-service teachers' DCs in relation to their self-efficacy in ICT, their collaboration with colleagues, and the infrastructural support found a positive association between teachers' DCs with each of these three factors. This highlights the needs for enhancing teachers' self-efficacy in ICT, their collaboration with colleagues, and the infrastructural support to improve their DCs.

Despite these above significant findings and implications, this study has several limitations. First, the sample size was relatively small, which may limit the generalizability of the findings to all English lecturers in Vietnam. Additionally, the study relied heavily on self-reported data, which can be subject to bias as participants may overestimate or underestimate their DC. Hence, future research could address these limitations by expanding the sample size and including lecturers from a broader range of institutions to enhance the generalizability of the findings. Additionally, further research could explore the specific challenges lecturers face in using digital technologies for assessment, offering more nuanced recommendations for professional development in this area.

Conflict of Interest: No potential conflict of interest relevant to this article was reported.

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