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Assessing Current Digital Competencies of High School English Teachers in Dalat City, Vietnam

Quynh Mai Hoang

Thang Long High School for the Gifted, Dalat City

Viet Nam

Tram Bao Mac

Faculty of Education, Dalat University

Viet Nam

Phat Thanh Nguyen

Faculty of Education, Dalat University

Viet Nam

Hung Minh Le

Faculty of Education, Dalat University

Viet Nam

Nguyen Thi My Huyen

Faculty of Education, Dalat University

Viet Nam

Minh Thi Ai Nguyen

Faculty of Education, Dalat University

Viet Nam

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Abstract

The research aims to investigate the current state of digital competence among English teachers at high schools in Da Lat, Vietnam, and provide recommendations to improve their digital skills. The research team conducted a survey of 28 English teachers at seven high schools in Da Lat, using a Likert scale with five levels and statistical analysis methods. The results show that the teachers' abilities to use electronic devices, educational software, and to search, select, and diversify information from the internet are all at very high and high levels. When encountering technical issues during teaching, the teachers' problem-solving skills are also at a very high level. However, the frequency of teachers using digital technology to grade assignments for students is only at a moderate level. The obtained results can provide a source of information and data for high schools in Da Lat and nationwide to compare, contrast, and develop strategies to enhance the digital literacy of English teachers at teaching institutions.

Keywords: Dalat city, digital competence, English teachers, high schools, Vietnam

1. Introduction

1.1 World Preliminary Literature Review

The importance of digital competencies for teachers has been demonstrated through numerous research works by authors worldwide (Røkenes & Krumsvik, 2014). Gilakjani (2013) advocated for the positive impact of bringing computer technology into the educational process. This emphasized the necessity for teachers to use technology with a keen awareness of its purpose, effectiveness, and factors contributing to improved teaching and learning. Tømte (2013) not only noted increased awareness and technical skill improvement among teachers and students, but also highlighted the varied approaches to Information and Communications Technology (ICT) applications in teacher education institutions and global policy concerns. Lachica (2015) conducted a study in 5 high schools in the Philippines on teachers' digital competencies. With survey results obtained from 60 participating teachers, the research team gained an overview of teachers' awareness of digital competency, the urgency of digitizing lessons, and the indispensable role of technology in supporting the teaching process. The author specifically addressed the incorporation of technology into traditional lectures, emphasizing the crucial role of digital skills in learning, teaching, and the exchange process between teachers and students to develop students' awareness as well as critical thinking. According to

result of a recent research on the digital competence of 2,447 upper secondary teachers in Norway, Krumsvik (2016) suggested that these teachers have a mix of simple computer skills and more advanced teaching with technology skills, which is a mix of basic computer use and smarter ways of utilizing technology for teaching and learning. Factors such as formal education and self-reported screen time emerged as significant contributors to the highest individual digital competence. Also, it was observed that teachers with continuing ICT education have significantly more digital competence than those without such education.

More specifically, these digital competency skills include various aspects. The first is the ability to select teaching materials from the Internet to include in lectures. Currently, the Internet is a vast source of information contributed from all over the world. Students will have access to the most advanced knowledge if teachers can act as a bridge for connection and guide them with skills to look up information online. Second, the ability to design lessons using the help of laptops, computers, and presentation devices is also a significant advantage, facilitating interaction between teachers and students as well as enhancing communication convenience and effectiveness. Third, the application of information technology in assessing and evaluating educational outcomes will bring significant benefits. Digital skills will help teachers assess results more comprehensively and accurately by applying electronic methods or digital platforms, thereby saving time and improving work quality. According to Bentri & Hidayati (2023) today's educators need to be equipped with technology knowledge to gradually upgrade the quality of their lectures and transform traditional teaching methods into modern ones. The group of scientists believes that a majority of teachers lack digital skills. This is a matter of concern because teachers' digital competencies affect many aspects such as the quality of lectures, the quality of interactions with students, and the ability to equip students with the necessary competencies to integrate into the classroom and contribute to society in a much more advanced era. Another study by researchers Dias-Trindade et al. (2021) from Portugal also showed similar results. When conducting a survey, they found that teachers from two high schools, Miranda do Corvo and Sines, had average digital competencies. Teachers were also aware of this problem, but there were many difficulties in improving digital competence in the educational context. Teachers have a clear awareness of the importance of digital competencies in the teaching process. They also acknowledge that they cannot maintain the old ways of teaching including the reading-copying style, or using solely the knowledge in textbooks, but must enhance their lectures. By surveying the difficulties that teachers face, the team of researchers was able to come up with a program specifically designed to help teachers overcome those difficulties and initially become familiar with competency skills.

Additionally, to achieve a positive outcome from integrating digital technologies and multimedia communication into the classrooms to enhance the quality of lessons, there needs to be practical guidance for educators in new teaching literacies such as the Bridge21 approach (Kearney & Tangney, 2023). This pedagogical model is to support teaching new literacy skills in English education and is considered an effective method for improving students' confidence and engagement in learning English. However, there are some challenges faced by teachers in applying ICT to teaching, namely the lack of ICT knowledge, lack of ICT facilities, lack of self-confidence, time-consuming, conservative teaching mindset, and the limited duration of

ICT usage among teachers (Junaidi et al., 2020). These are worth considering matters, as this era will demand not only teachers but also students to adapt to modern needs, which means people, especially language teachers, should be able to handle technology well.

1.2 Vietnam preliminary literature review

In the age of technology becoming an integral part of various fields, including education, the integration of information technology and communication has become an important aspect of teaching methods. The digital competence of teachers plays a crucial role in determining the effectiveness of using digital technology in the classroom, as evidenced by numerous studies in education.

With the extensive spread and development of the Internet, since the beginning of the 21st century, several new classroom organizational models have emerged, such as the "flipped classroom" pioneered by high school teachers Jonathan Bergmann and Aaron Sams (2012), placing learners at the center with active learning activities throughout the learning process.

Dai & Marquet (2018) conducted research on various digital competency models, focusing on their ability to meet global societal needs. In his study, he compared the situation in Vietnam with international standards and placed our country in the highest-ranked group in aspects such as "national policy orientation on ICT application in education" and "computer equipment infrastructure in schools," according to the evaluation scale of UNESCO in the Asia-Pacific region, carried out by the Education Ministers Council of Southeast Asian countries. The author acknowledged the reality that Vietnam needs to adjust its approach to defining ICT skill standards to meet societal demands and proposed a fresh perspective on identifying the core competencies of learners and workers related to digital technology usage, establishing a basis for developing specific assessment criteria for each skill, aiding in measuring the level of digital competency achievement as required by society.

Information technology has transformed the teaching methods and student learning approaches in language classrooms in general and English language classrooms in particular. To aid teachers in their teaching process, the authors introduce several applications and platforms such as Padlet, Kahoot, H5P, Flipgrid, and also highlight their advantages and disadvantages. Other typical toolsets supporting audio, image, and video editing include Goldwave and Camtasia Studio (Vo Thi Kim Thao, 2023), which also help teachers design lessons and enhance interaction with students effectively. According to scientific studies, the human brain remembers information through images (what we see) much better than sound (what we hear) (Huynh Tan Hoi, 2018). Therefore, these tools are not only useful means in the teaching process but also help optimize the learning process.

According to Nguyen Van Long (2016), "The application of information technology in the teaching process aims to enhance students' autonomy and learning motivation; and particularly expand their interaction abilities (with course content, instructors, and peers) through three directions: (1) bringing the world into the classroom; (2) taking the lessons outside of the classroom; and (3) especially, thereby increasing students' abilities to access, process, and regulate information to generate new knowledge." It can be seen that the application of

information technology brings many benefits to learners, making the learning environment more dynamic and thus enhancing the effectiveness of the learning process. In addition to the numerous benefits that information technology brings to learners, the benefits for teachers are also addressed by the author: "The internet provides virtually unlimited sources of information, and accessing this information makes teachers more creative and helps them stay updated."

One of the challenges in applying digital technology to English teaching in Vietnam is that teachers misunderstand the concept of integrating ICT into teaching—a consequence of insufficient depth in training on the necessary skills to effectively use technical tools as well as information technology resources (Nguyen, 2016). Another study by Pham Thi To Nhu (2014) addressed issues including the current situation where the majority of teachers in the English department at the University of Foreign Languages only use basic tools such as computers, projectors, and cassette players, and occasionally use voice recorders for teaching. Only slightly more than 6% of teachers frequently utilize new technologies for teaching and communicating with colleagues.

To address this issue, comprehensive training and support are essential to help teachers improve their ICT skills while also enhancing the quality of infrastructure in educational institutions. This is crucial for improving the quality of teaching and lessons. Resolving these difficulties not only helps teachers broaden their profound understanding of digital literacy but also aids in improving and enhancing their pedagogical expertise in teaching English. Consequently, this will have a positive impact on the quality of teaching and the effectiveness of lessons, fostering the comprehensive development of English language teaching in high schools across Vietnam.

2. Method

The research team conducted a survey in Da Lat City, located on the Lam Vien Plateau within Lam Dong Province. High school education in Da Lat is diverse, with many quality public and private schools. Currently, within the inner city of Da Lat, there are 7 high schools, including: Tran Phu High School, Tay Son Secondary & High School, Chi Lang Secondary & High School, Bui Thi Xuan High School, Thang Long High School For the Gifted, Ethnic Minority Boarding Secondary & High School of Lam Dong Province, and Dong Da Secondary & High School, with a total of about 40 English teachers at the high school level.

The research team conducted a survey and collected results from the 7 aforementioned high schools with the participation of 28 teachers, accounting for over 70% of the total number of teachers across the city.

By employing survey methods through questionnaires, we gathered objective information about the research subjects. The survey forms collected fairly comprehensive data, which we utilized as the primary dataset for analysis and presentation in the study. Data obtained through various research methods were analyzed using mathematical statistical methods.

To ensure meaningful outcomes, we segmented the survey questionnaire into four primary sections, including (I) Ability to find information, data, and media literacies; (II) Ability to make a product to support learning and teaching; (III) Ability to solve problems; and (IV) Ability to assess the learning progress using digital competence.

3. Results

3.1 Ability to Find Digital Information, Data, and Media Literacies

Through the process of surveying the digital competency of English teachers at the schools in Da Lat city, the survey sample data is presented in Figure 1.

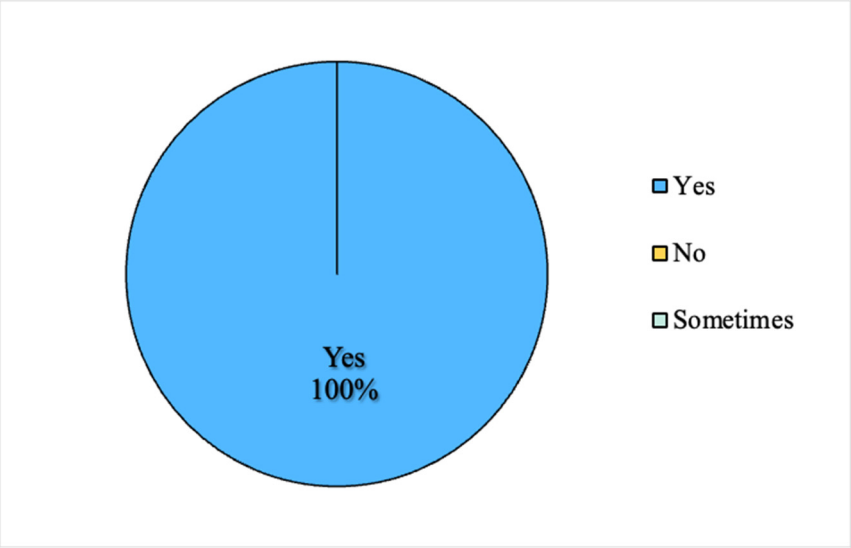

Figure 1. Percentage of teachers applying information technology in teaching

According to the results shown in Figure 1, 100% of the participating teachers use digital technology in their teaching process. This result will contribute to aiding our group in exploring further research information in the most accurate and objective manner.

Next, our group proceeded to explore which tools and platforms teachers have adopted among the many ways that digital technology can enhance the quality of teaching. The results obtained in Figure 2 overall indicate that 100% of the teachers visualize their lesson content using images, videos, and sounds. Additionally, most teachers also utilize presentation tools (PowerPoint, Canva, etc.) (89.3%), online interactive games (75%), or internet resources (64.3%) for supplement or cross-reference textbooks. These figures all yielded relatively consistent data, with minimal variance, demonstrating the proficiency, diversity, and creativity of teachers in utilizing ICT. There remains a small portion of teachers who employ traditional teaching methods and do not integrate digital technology into their teaching process (3.6%); however, this can be explained by the wide-ranging demographic surveyed, including teachers spanning all age groups, with older teachers being less inclined to digitize their lessons. The findings obtained align with the previous studies indicating that digital technology proficiency is correlated with age, specifically that younger individuals tend to achieve higher levels of digital technology proficiency (Basantes-Andrade et al., 2020; Cabero-Almenara et al., 2021).

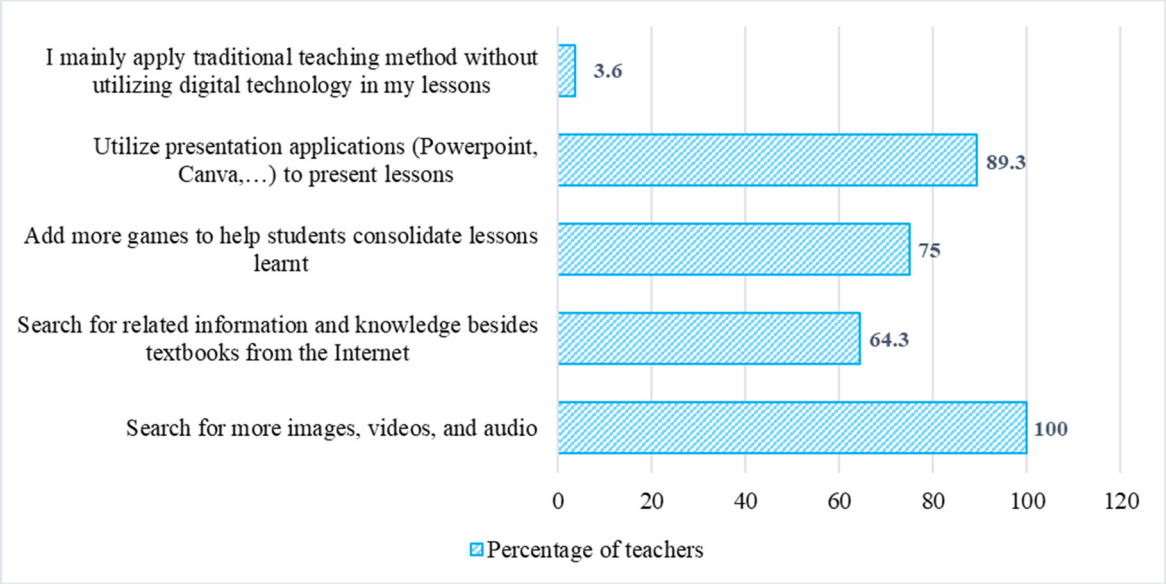

Figure 2. Methods employed by teachers to make lectures more dynamic and engaging

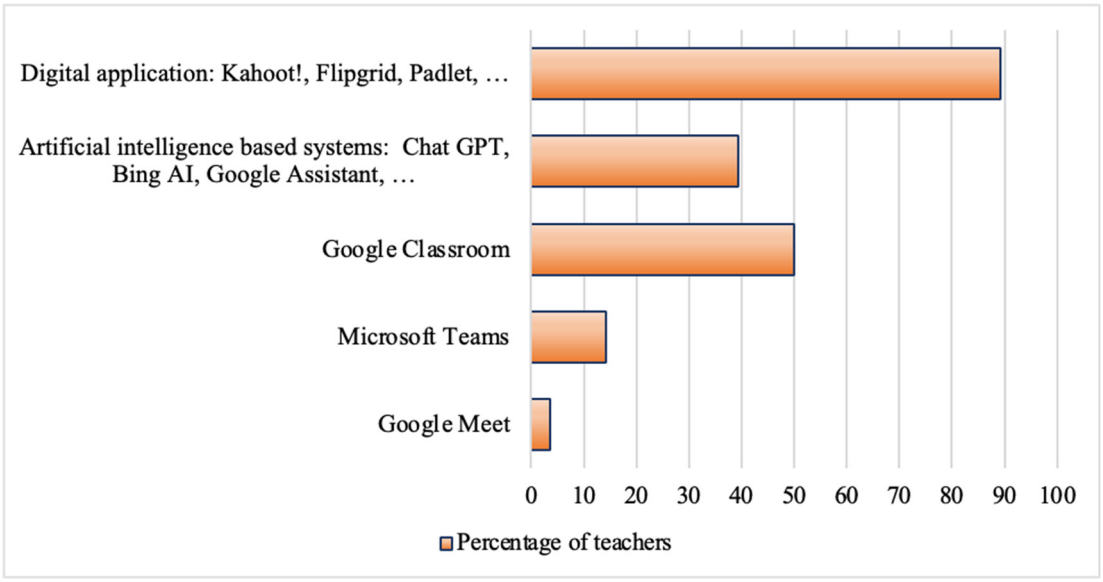

Figure 3. Technology platforms commonly used by teachers to support language teaching

When considering the platforms commonly used by teachers in Figure 3, we observe a correlation with the results in Figure 2, as nearly 90% of teachers utilize interactive technology platforms such as Kahoot or Flipgrid. These are applications featuring colorful images and engaging videos, along with lively sound effects, aimed at helping students apply and review knowledge through games or finish their assignments by recording videos/images. Additionally, with the rise of Artificial Intelligence (AI) in recent years, educators have begun to use ChatGPT or BingAI (40%) for many advantages such as improved information search, filtering capabilities, and faster processing. The era of Covid-19 has passed, so the frequency of using

online learning platforms like Google Meet has significantly decreased (4%), making way for virtual classrooms like Google Classroom (50%) with more diverse functions such as classroom management, assignment distribution, grading, etc. It also provides better support for learning methods such as face-to-face and blended learning.

3.2 Ability to Make a Product to Support Learning and Teaching

The research team surveyed the frequency of teachers using technological devices (Figure 4) and technological applications/tools (Figure 5) in the teaching process. The research results show that teachers very frequently use personal computers/laptops and textbooks (scoring 4.82 and 4.75 points, respectively) and frequently use cellphones to support the teaching process (3.79 points). Additionally, figure 5 shows that most teachers always use Microsoft Office (especially Microsoft PowerPoint) (scoring 4.96 points), digital lessons (4.79 points), pictures (4.64 points), videos (4.46 points), and audios (4.68 points). Considering these two aspects together, the research team suggests that in the process of creating teaching products, teachers mostly choose digital lessons as the main medium for conveying knowledge. By using presentation slides combined with visual tools, teachers' lessons become much more creative, engaging, and lively. Similar to Lachica's study (2015), the research team agrees that electronic lectures greatly help in maintaining good classroom interaction, especially for difficult and abstract lectures.

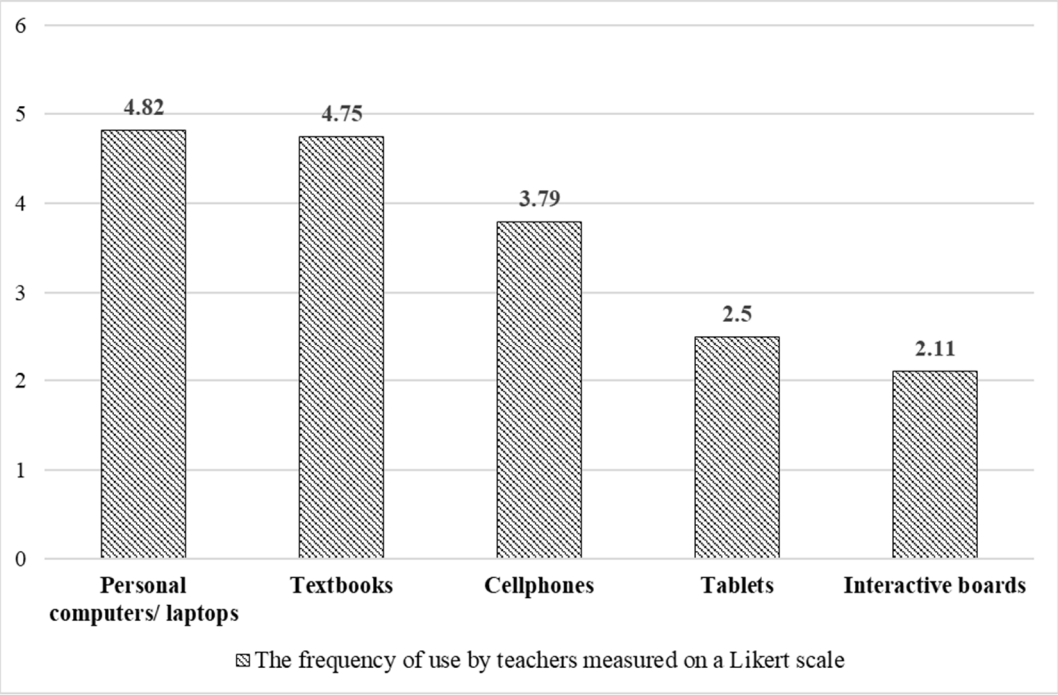

Figure 4. Frequency of teachers' usage of devices in the teaching and learning process

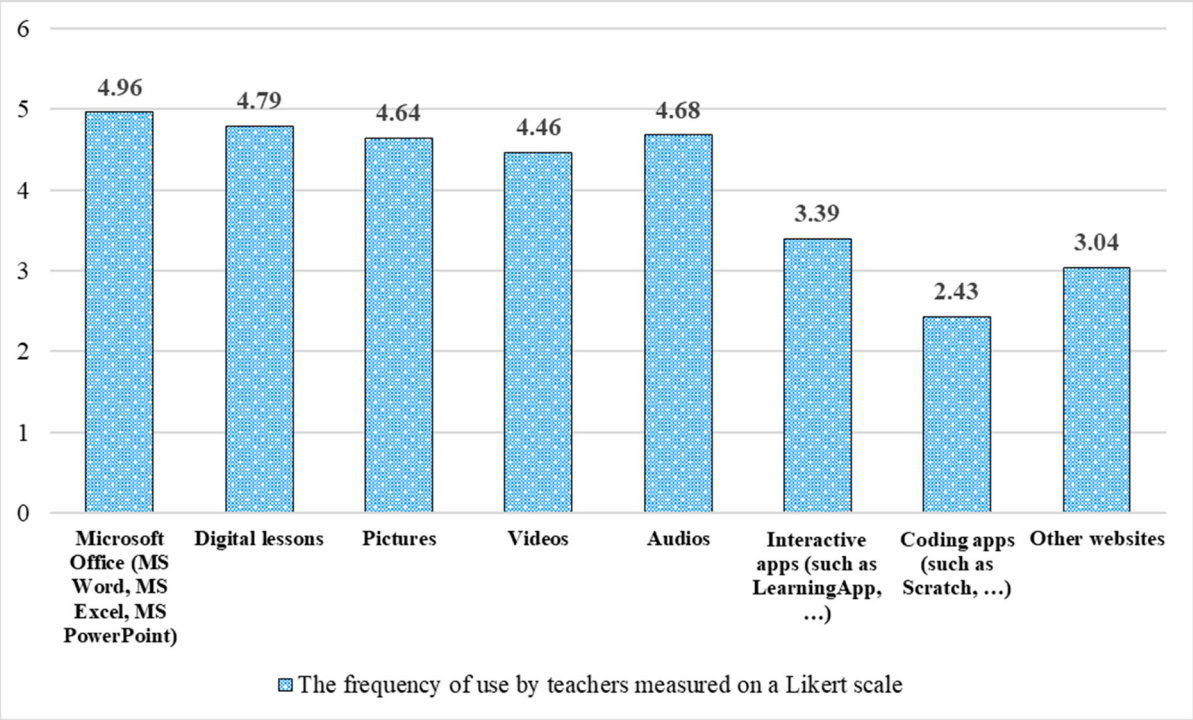

Figure 5. Frequency of teachers' usage of applications/tools in the teaching process

Furthermore, devices less commonly used by teachers include smartphones, tablets, and interactive whiteboards. In the process of creating lectures, smartphones and tablets are prioritized less than personal computers due to convenience and flexibility in operations. Additionally, interactive whiteboards are a relatively new supporting tool in Vietnam, not widely distributed or utilized by educational institutions, so the number of teachers using them is lower compared to other tools. This is like digital technology applications/platforms such as interactive learning platforms (LearningApps) or programming applications (Scratch), which are not yet widely adopted. Very few skills and knowledge are applied through educational software in teaching various subjects. The proportion of teachers using educational software is low. Our group's results somewhat reflect this, with a very high proportion of teachers using office applications but a much lower proportion using educational software and applications. Additionally, while our findings are somewhat modest, they provide the research group with a clearer insight into the devices and applications currently being used in schools. We believe this will contribute to supplementing Ferrari's (2012) analysis of teachers' digital technology competency framework, a study that is very detailed but focuses more on abstract and theoretical aspects.

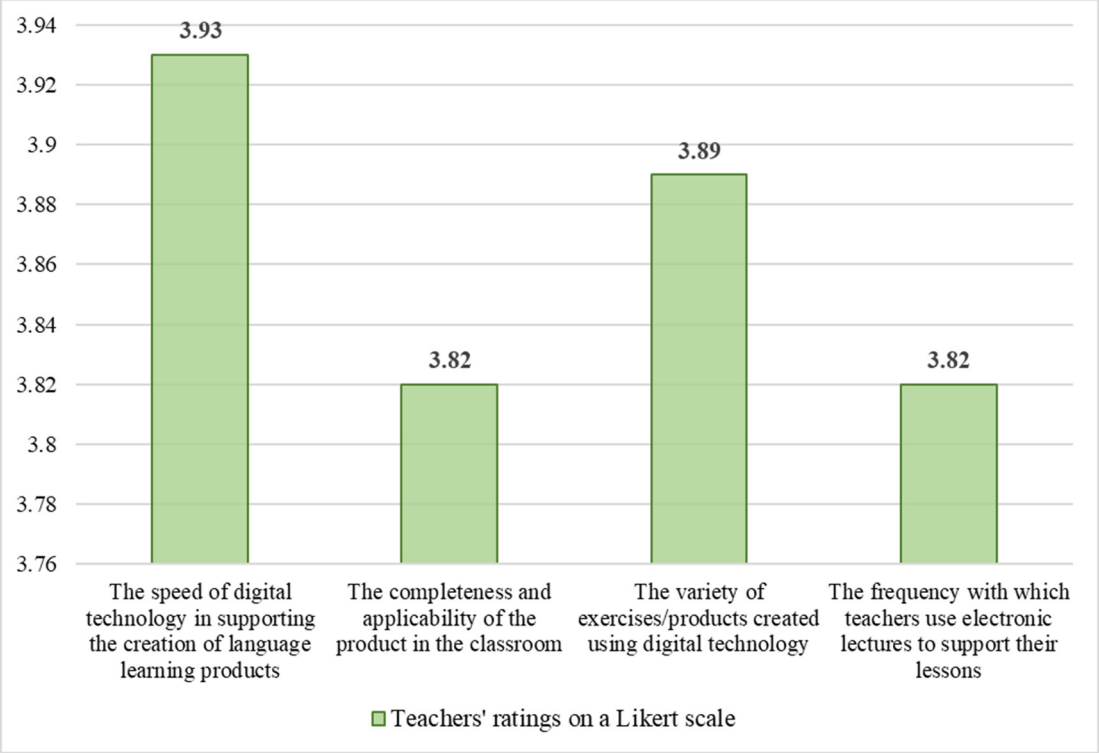

Figure 6. Teachers' evaluation of their ability to create instructional products applying ICT

Based on the survey results depicted in Figure 6, measured on a Likert scale, teachers rated their ability to create teaching products using ICT as High:

(1) The speed of digital technology in supporting the creation of language teaching products: 3.93 points;

(2) The completeness and applicability of the products in the classroom: 3.82 points;

(3) The richness of the types of exercises and products created using digital technology: 3.89 points; and

(4) The frequency of teachers using electronic lectures to support lessons: 3.82 points

Overall, teachers responded positively and quite consistently to all these criteria, highlighting the strengths of digital technology such as speed, completeness, applicability, and availability, all of which are very useful for teachers in creating teaching products.

These survey results also complement the findings in the study by Minamatov & Nasirdinova (2022), which stated that the application of information technology in teaching classroom lessons and extracurricular activities helps expand the creative potential of both teachers and students, enhances interest in science, and encourages students to explore various topics more seriously. Another study by Nguyen (2023) also confirmed the effectiveness of applying ICT in teaching English, "helping teachers to practice skills as well as specialized knowledge, improve their English expression ability, and overcome limitations in pronunciation, stress,

intonation, etc."

3.3 Ability to solve problems

Based on Figure 7, we observe that technological errors during teaching do occur, but not frequently. The majority of teachers rarely encounter technical issues (46.4%), followed by sometimes encountering them (39.3%). This result reflects the overall reliability and convenience of digital technology. With careful preparation regarding equipment, instructional content, and necessary knowledge, teachers can confidently use digital technology in their teaching process, even when some unexpected technical errors may occur.

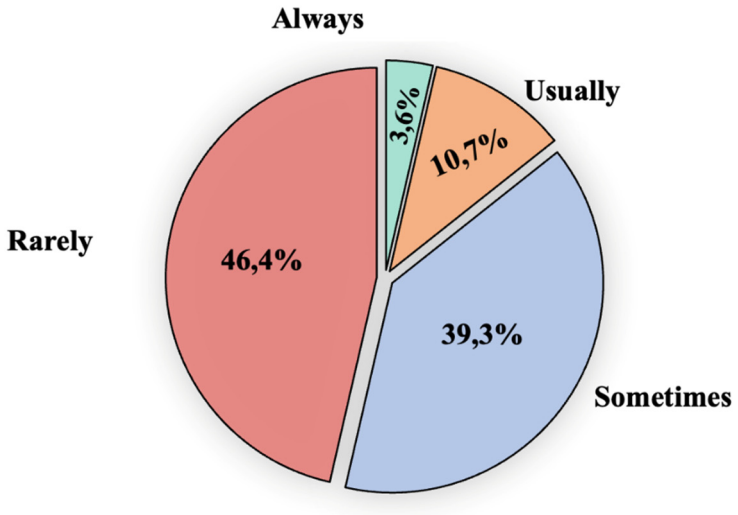

Figure 7. Fequency of teachers encountering technological difficulties during teaching

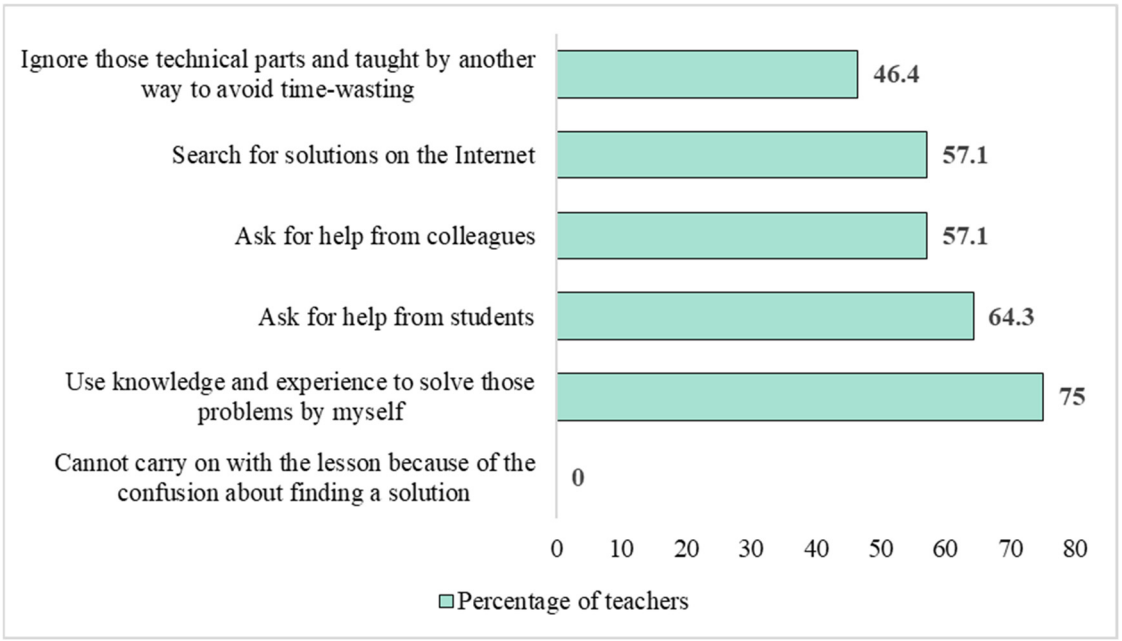

Figure 8. Some solutions teachers commonly apply when encountering technical difficulties

To gain a clearer understanding of the measures teachers apply when encountering technical difficulties, the research team conducted a survey and obtained the following results as depicted in Figure 8:

+ 75% of teachers resolve the issue independently using their abilities and experience, which is the highest proportion among the measures.

+ Teachers also commonly seek assistance from students, colleagues, or the internet, with relatively balanced proportions of 64.4%, 57.1%, and 57.1% respectively.

+ Another adaptive approach that teachers sometimes choose is to bypass the technical error and find alternative ways to avoid wasting class time (46.4%).

+ None of the teachers feel perplexed and abandon the lecture because they do not know how to solve the issue.

The results we obtained are contrary to Salehi's (2012) findings about the barriers that make teachers hesitant to use digital technology in their lectures. While in Iran, where Salehi's study was conducted, teachers believed that the lack of technical support from the school and their own lack of confidence and knowledge to troubleshoot technical issues were the main reasons, in Vietnam, teachers seem to cope better with these obstacles. All surveyed teachers handled technological difficulties quite well. Therefore, with time to supplement knowledge, practical experience, and accumulated expertise, teachers will be able to confidently address technical issues using the most appropriate methods to maintain the effectiveness and quality of the lesson.

3.4 Ability to assess the learning progress using digital competence

Managing and evaluating the learning process is an aspect where digital technology can significantly aid teachers in enhancing effectiveness and saving time. In Figure 9, our team surveyed and compiled the most common methods teachers apply in this assessment process.

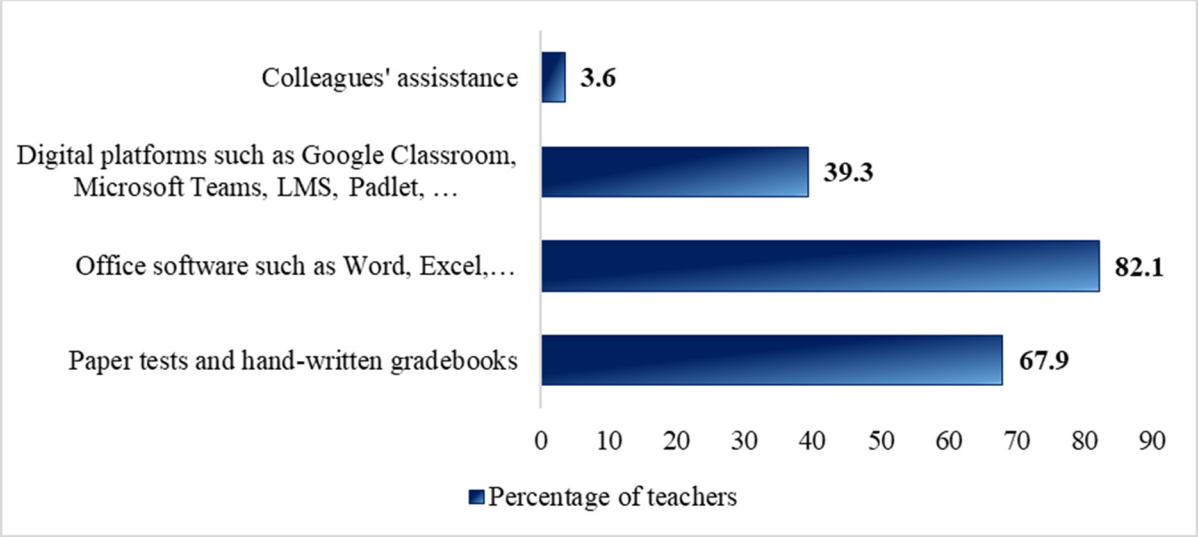

Figure 9. Common methods teachers apply to manage and evaluate students' learning process

Up to 82.1% of teachers use office software such as Word or Excel. The ease and convenience of these software packages are the primary reasons they remain the top choice for teachers when taking notes, entering grades, or compiling results. Besides, 67.9% of teachers employ the traditional method of paper-based tests and grade books. This may be explained by the familiarity of the method and its widespread application from the earliest generations of students to the present day. Furthermore, grading on paper still has notable advantages: ensuring the clarity and transparency of the test, teachers can grade flexibly, in detail, clearly, and students can easily track their work after receiving their grades.

However, 39.3% of teachers have also chosen digital platforms for grading, such as Google Classroom, Microsoft Teams, LMS, or Padlet. With appealing interfaces, clear organization, numerous tools, modern features, and large storage capacities, these grading platforms are gradually gaining popularity among teachers. Managing all student information and grades on digital platforms will greatly contribute to reducing the cumbersome paper-based records in the future

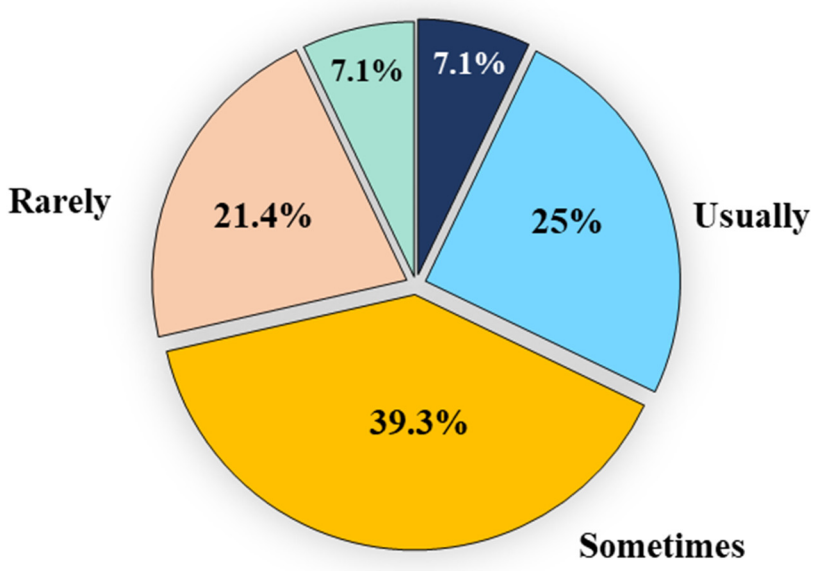

Figure 10. Teachers' evaluation of the use of digital platforms in the teaching process

Figure 10 illustrates the frequency of teachers' use of digital platforms for grading student assignments. We can see that the majority of teachers evaluate at sometimes (21.4% rarely, 31.9% sometimes, and 25% usually). This result indicates that the use of digital platforms is not yet widespread due to the dominance of traditional paper-based testing and grade books. However, digital platforms have been gradually introduced in high schools. With the rapid development of technology in general and the continuous upgrading of devices and LMS platforms by high schools in particular, the usage rate of digital platforms for managing learning will likely increase in the future.

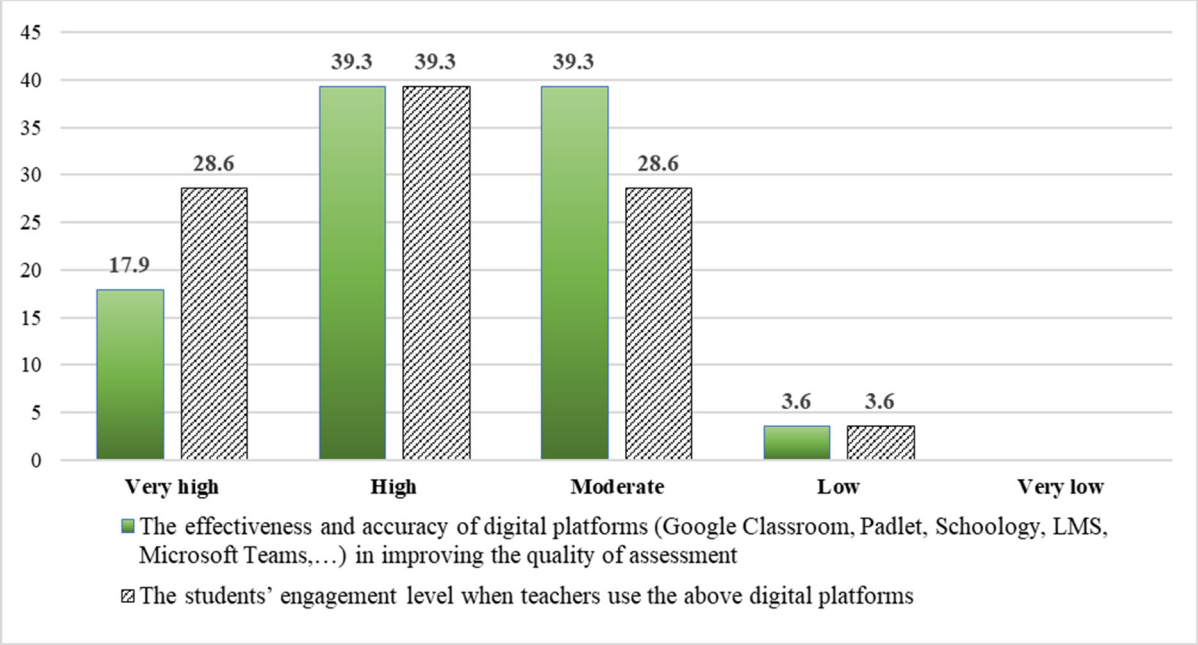

Figure 11. Teachers' evaluation of using digital platforms in teaching language

Figure 11 illustrates the teachers' evaluation level from very high to very low for two criteria:

- The first criterion- the effectiveness and accuracy of digital platforms in improving assessment quality- is rated high (primarily at the high level (39.3%) and moderate level (39.3%)). Therefore, although not yet a primary management method, digital platforms have shown their advantages in supporting teachers to enhance accuracy and effectiveness.
- With the second criterion, the level of student engagement when teachers use digital platforms is quite high (mainly at very high level (28.6%), high level (39.3%), and moderate level (28.6%)). This is a positive result that allows the research team and educators to access feedback from students - the main subjects of the teaching process. With this promising result, combined with the undeniable advantages of digital platforms mentioned above, the application of digital technology in educational management and student grading is entirely reasonable and convincing, and it can greatly contribute to improving teaching work in general educational institutions and high schools in particular.

4. Conclusion

We have presented the results of a research about the current state of digital competence among English teachers at high schools in Da Lat, Vietnam. The main findings are summarized hereafter.

As for operational capacity with technology and software, teachers generally possess a good level of competency in using electronic devices and teaching software. In particular, 100% of teachers are aware of information technology and apply it in teaching; 82.1% of teachers use computers, while other electronic devices such as phones and tablets are used less frequently;

100% of teachers employ visualization techniques in their lectures; 89.3% of teachers use presentation tools like PowerPoint, Canva, etc.

As for information and data competency, teachers effectively assess, select, and convey necessary information to students. In particular, 65% to 75% of teachers seek additional games and content on the Internet to integrate into lessons; About 70% of teachers demonstrate evaluative and critical thinking skills regarding digital technology, particularly through feedback on the speed, completeness, applicability, and richness of information sources from the Internet.

As for learning and developing digital skills, teachers continuously enhance their ICT skills for teaching. Specially, 100% of teachers know how to handle technical issues and 57.2% of teachers highly regard information technology for improving efficiency and accuracy in grading.

As for professional digital competencies, the use of digital technology to create electronic lessons is a distinctive aspect of the teaching profession. 100% of teachers are capable of using devices, software, and finding abundant resources from the Internet; 82.1% of teachers know how to use office software to manage student learning processes; and, nearly 40% of teachers use digital platforms like Google Classroom, LMS, Padlet, etc. This shows that teachers have a good level of digital competence, enabling them to perform necessary tasks during the teaching and learning process, ensuring quality education and enhancing teaching effectiveness.

Hence, schools should provide conditions, motivation, and encouragement for teachers to continuously seek, learn, and improve their ICT knowledge and skills. This can be achieved by organizing regular seminars, training sessions, or experience-sharing workshops on digital technology in teaching. The school can also hold competitions to enhance teachers' skills. Periodic surveys on teachers' digital skills are essential, allowing administrators to stay updated on the teachers' competencies and to encourage teachers to keep improving, rather than remaining stagnant, by continuously enhancing themselves and staying updated with new knowledge.

However, in addition to the school's support, intrinsic motivation from the teachers themselves is necessary. Teachers need to recognize the significant importance of these skills and prepare themselves with a progressive mindset, ready to step out of their comfort zones. Innovation, creativity, and problem-solving skills are crucial attributes that teachers should develop, practice, and apply in lessons as well as in life. The research team believes that, with these mindset changes combined with the use of digital technology, teachers will create creative, engaging, and effective lessons, guiding generations of successful and talented students in the future.

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Informed Consent

Obtained.

Provenance and Peer Review

Not commissioned; externally double-blind peer reviewed.

Data Availability Statement

The data that support the findings of this study are available on request.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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