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Exploring Algerian Teachers' Digital Literacy under the CBA: Case of EFL Secondary School Teachers

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Abstract

Teachers' digital literacy has become a sine qua non in today's educational landscape. However, the research on this critical skill remains relatively scarce, particularly considering the growing recognition of context's pivotal role in shaping competencies. Besides, the existing body of literature highlights a concerning deficiency in integrating Information and Communication Technology (ICT) within English as a Foreign Language (EFL) classrooms under the Competency-Based Approach (CBA). This study aims to explore EFL secondary school teachers' digital literacy in the Algerian context, namely under the CBA. Using a mixed methods design and random clustered sampling, thirty-nine secondary school EFL teachers participated in this study. They filled out a questionnaire adapted from the DigCompEdu framework and partook in semi-structured interviews. Data analysis involved SPSS V22 for quantitative aspects and thematic analysis for qualitative insights. The results reveal a noticeable discrepancy between teachers' overall digital literacy and their digital literacy within the CBA. This disparity is explained by the outdated curriculum which places minimal emphasis on digital competencies. Moreover, the numerous challenges that surround the CBA in the Algerian classroom undermine teachers' development of their digital literacy. However, the study underlines the significance of project work as the optimum CBA component that motivates teachers to enhance their digital skills. Practical seminars and special digital literacy programs along with continuous updates to EFL curricula are needed to aid teachers in coping with the exponential evolution of technology within the education realm.

Keywords: Algeria; CBA; Competence; Digital Literacy; EFL; Secondary School; Teachers.

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Introduction

The rapid ascent of technology has conspicuously stressed the importance of digital literacy in education. Integrating technology in pedagogical tasks not only eases routine activities but also allows for smarter pedagogies, enhancing learning in technology-enabled environments (Mdingi & Chigona, 2021). Digital literacy among educators fosters proactive exploration and implementation of effective teaching methods, empowering students, improving learning, and reducing attrition rates (Reddy et al., 2023; Zhang, 2023). Moreover, the outbreak of COVID-19 has further heightened the importance of digital literacy, necessitating a shift to online teaching and prompting educators to assess and reflect on their digital competencies (Yünkül & Güneş, 2022). Assessing teachers' digital literacy is foundational to their professional evaluation and is crucial for preparing for potential future crises. Digital literacy has become an indispensable prerequisite to contributing effectively to the academic milieu. It can either include or exclude individuals from a given community (Reddy et al., 2023), promoting inclusivity, participation, and communication; objectives akin to language learning. Thus, language teachers must prioritize digital literacy for both personal advantage and to optimize learning outcomes for their students, particularly in the EFL context (Belda-Medina, 2021). Nevertheless, very limited research is dedicated to examining teachers' digital literacy within EFL settings. Additionally, Zhang (2023) recommends further exploration of this subject in secondary schools, given the scant attention it has received in high school contexts (Nguyen & Habók, 2023). Another gap lies in assessing the status of teachers' digital literacy under different educational approaches namely the CBA. Though Algerian authorities have been promoting this approach, EFL teachers still grapple with tech-related challenges (Boukhentache, 2019). Thus, the digital literacy of EFL teachers remains a pressing inquiry, particularly under the context of the CBA. To address these gaps, this research aims to explore the extent of digital literacy among Algerian Secondary school EFL teachers and the role of the CBA curriculum in developing their digital literacy.

1. Literature Review

1.1. Digital Literacy

Over the course of its evolution, the term digital literacy has witnessed miscellaneous nomenclature and definitions. The first definition of digital literacy is attributed to Gilster who delineated this concept as the ability to understand and use information in multiple formats from a wide range of sources (Gilster, 1997, p. 33). On the basis of this definition, scholars develop a myriad of other definitions to limit the scope of digital literacy; however, this notion has overlapped with other terms such as Information and Communications Technology (ICT), competence, etc. Covello (2010) states that this term is used for similar or overlapping research about information literacy, ICT competence, Web literacy, 21st-century skills, information fluency, computer literacy, and digital competence. This diversity along with the continuous rapid evolution of technology have broadened the scope of digital literacy. Thus, it is oversimplistic to define this concept with some rigid words(Esteve-Mon et al., 2020; Reddy et al., 2023). Notwithstanding, digital literacy generally includes the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills (Tinmaz et al., 2022). In order to avoid the blurry boundaries of its scope, the terms digital literacy and digital competence will be used interchangeably in this article.

1.2. Teachers' Digital Literacy

In the educational context, digital literacy is far more intricate due to contextual dimensions. Previous literature has assumed that teachers' digital competence denotes a more intricate set of skills compared to digital competencies needed in other fields (Instefjord & Munthe, 2016; Krumsvik, 2014). The reason behind this postulation is the affiliation of teachers with complex

organizational systems that propel them to act within rich educational traditions (Krumsvik, 2008; Lund et al., 2014). In the same vein, Tarraga-Minguez et al (2021) sustain that the digital teaching competence "is a complex pedagogical concept that involves a series of dimensions and aspects linked to forms of pedagogical representation of technology in the classroom, learning, and teacher training". The affiliation of teachers with certain systems convolutes the concept of teachers' digital literacy. It adds the aspect of responsibility and obligation to conform to not only assigned approaches but to ad hoc traditions that are part of each institution's culture as well.

In an attempt to unravel the complexity of teachers' digital literacy, scholars include the learner and the learning process. In this, digital teacher competencies are "the set of skills, attitudes and knowledge required by educators to support student learning in a technologically rich world,design and transform classroom practices and enrich their own professional development"(Esteve-Mon et al., 2020). Similarly, Almås & Krumsvik (2007) claim that digital competence is the teacher's ability to use ICT with a good pedagogical-didactic ICT understanding and to be aware of how this might impact the learning strategies and educational formation of pupils. That is, teachers' digital literacy is not only the ability to use ICT for professional purposes, it encompasses its effect on the learners as well.

1.3. Frameworks of Digital Literacy

The existing body of literature has mentioned various frameworks that sketch the dimensions of teachers' digital literacy. Among the most prominent models of teachers' digital literacy are Technology, Pedagogy, Content, and Knowledge (TPACK) model introduced by Mishra & Koehler (2006); Substitution, Augmentation, Modification, and Redefinition (SAMR) model proposed by Puentedura (2006); and DigCompEdu which is based on six aspects: Professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence (Redecker, 2017). These frameworks are used as a springboard to develop instruments that assess teachers' digital literacy as well; however, Reddy et al have criticized TPACK and SAMR along with other models for reasons of attrition rates and complexity (2023). Therefore, They have developed a model: South Pacific Digital Literacy Framework (SPDLF) which, in turn, has limitations namely; sample size and sample background.(Reddy et al., 2023). The third model DigCompEdu though is designed for European countries contexts, researchers have adapted this model for different educational environments (Nguyen & Habók, 2023). Accordingly, the adaptability of DigCompEdu in diverse contexts boosts its status as a comprehensive and versatile framework for understanding teachers' digital literacy.

1.4. Studies on EFL Teaching and Digital Literacy

A growing body of literature has explored EFL teaching and digital literacy. Zhang has investigated the digital literacy of English language teachers and probed its correlation with gender, education level, and teaching experience. The findings indicate that teachers' contextual factors do not influence their digital literacy skills; however, teachers' attitudes toward technology, their skill to use technology, and their access to technology can significantly affect teachers' digital literacy (2023). Conversely, Putri Maharani et al. identified a broader range of factors affecting digital literacy, categorizing them as internal and external. Internal factors encompass teachers' willingness and capabilities to adapt to digital tools, while external factors include technological advancements, the demand for e-rapport in teaching, the adequacy of facilities supporting digital technology integration into classrooms, the cost associated with incorporating digital technology, and students' abilities to utilize digital tools and information (2023). Regardless the issue of the context, the level of EFL teachers' digital literacy ranges from low to average and training is still highly needed (Belda-Medina, 2021; Putri Maharani et al., 2023). Most of the studies on teachers' digital literacy are quantitative and they lack qualitative evidence (Al Khateeb, 2017; Nguyen &

Habók, 2023). Consequently, the level of EFL teachers' digital literacy and its surrounding factors should be further investigated under different context using quantitative and qualitative methods.

1.5. Digital Literacy and CBA

The importance of digital literacy in the CBA is implicitly and explicitly highlighted throughout the literature. According to (Chelli, 2010), the CBA is characterized by the following:

- It is action oriented as it allows the learner to become an effective competent user in real- life situations outside the classroom.
- It is a problem-solving approach in that it places learners in situations that test and check their capacity to overcome obstacles and problems, it makes learners think and learn by doing.
- It is social constructivist in that it regards learning as occurring through social interaction with other people.
- CBA is a cognitive approach.

In straightforward words, the CBA aims to make the educational objectives concrete and related to real life through meaningful solving of problems. Since technology is axiomatic in everyday life, digital literacy is necessary to solve problems; hence, to CBA. In more explicit words, Ali Rabah (2014) emphasizes this importance by stating that ICT is indispensable requirement to achieve the objectives of the CBA.

In the Algerian context where the CBA is the adopted approach since 2005, authorities exhort teachers to use ICT through textbooks. Third year secondary school textbook states that teachers should integrate ICTs and urge their learners to use technology in the project work (MNE, 2006). In a study that aims to highlight the role of project based learning (PBL) in enhancing EFL student digital literacy and collaboration, it reveals a positive correlation between implementing PBL and teachers' digital literacy (Belhouchet, 2022). However, Bouhadiba (2015) has concluded in his study that the project work is a myth due to its circumstances of preparation within and beyond the confines of the classroom. Therefore, integrating ICT in the CBA is elusive (Boukhentache, 2019). Moreover, the textbook does not meet ICT requirements in terms of intellectual thinking and learners are more digitally literate than their teachers (Amziane & Guendouzi, 2015). Consequently, teachers need ICT training under the CBA compliance (Amziane & Guendouzi, 2015; Cherairia & Benhattab, 2021). Yet, this result is not conclusive due to the dearth of qualitative evidence supporting these claims.

2. Methodology

This study aims to explore teachers' digital literacy at the level of secondary schools under the CBA. To this end, the following study aims to answer the following questions:

a- To what extent are Algerian Secondary school EFL teachers digitally literate?

b- What is the role of the CBA curriculum in developing Algerian Secondary school EFL teachers' digital literacy?

2.1. Research Design

To address the research inquiries outlined above, a mixed-method design was opted to provide the required data. A questionnaire was used to collect quantitative and qualitative data. Moreover, the researcher conducted interviews with teachers to support the qualitative data and explore other avenues of the research questions.

2.2. Participants

Table 01: Demographic Description of the Sample

Total	Gender	Age	Education level	Seniority
34 (100%)	Male 12 (35,3%) Female 22(64,7%)	[≤ 29] 15 (44,1 %) [30-39] 18(52,9%) [40-49] 1(2,9%) [≥ 50] 0 (0 %)	ENS 8 (23,5 %) Bachelor 5(14,7%) Masters 21 (61,8%)	[≤ 4] 9 (26,5 %) [5-9] 21 (61,8 %) [10-14] 2 (5,9 %) [≥15] 2 (5,9 %)

The participants of this study were a total of 39 secondary school EFL teachers in Algeria. They were chosen randomly according to cluster sampling. 12 secondary schools from the district of Djelfa were opted for this study making a total of 48 EFL teachers. However, some teachers refused to partake in this research due to attitudinal and contextual reasons. For the questionnaire (see Table 01), 12 were male (35,3 %), and 22 were female (64,7 %). 52,9 % of the participants were between 30 -39 years old, whereas 44,1 % were less than 30 years old. Most of them 61,8% obtained their master's degree and had between 5 to 9 teaching experience.

2.3 Data collection tools

2.3.1. Questionnaire

Researchers developed a three-part questionnaire (see Appendix 01). The first part was designed to collect demographic data about the participants. In the second part, researchers aimed to collect quantitative data by adapting the DigCompEdu framework questionnaire. This model was chosen due to its comprehensiveness and it was adjusted to cope with both contextual differences and the objectives of this study. Modifications were made to fit CBA dimensions and the Algerian context. In the last part of the questionnaire, two open-ended questions were devoted to collect qualitative data. For the hard copy, a QR code was provided to help teachers send this questionnaire virtually to their absent colleagues.

Table 02: Internal Reliability

Cronbach's Alpha	Number of Items
0.816	23

Table 03: Validity Consistency

	Pearson Correlation	Sig. (2-tailed)
Statements	0.530 – 0.874	0.000
* Correlation is significant at the 0.05 level (2-tailed).		
** Correlation is significant at the 0.01 level (2-tailed).		

The reliability and validity of this questionnaire were analyzed by SPSS version 22. The internal reliability reached 0.816 which indicates that this questionnaire was reliable since $\alpha \geq 0.70$ (Shemwell et al., 2015, p. 68) (see Table 02). Regarding the validity, correlation coefficients were calculated between each dimension and the total score of the questionnaire using Pearson r. The

scores indicate an acceptable level of validity as they ranged between 0,5 and 0,8 and they were statistically significant ($p \leq 0.05$) (see Table 03).

2.3.2 Interview

The main aim of the interview was to support and explore qualitative data. Therefore, teachers were asked three questions about their digital competence in teaching and its surrounding circumstances. (see Appendix 2)

2.4 Procedure

This study started at the beginning of September 2023; it spanned a three-month duration. First, researchers contacted participants via Email and Facebook; however, only 11 responded. Then, the researchers distributed the hard copy of the questionnaire in person; 23 teachers responded, and 5 teachers were interviewed. The extended timeline was necessitated by challenges arising from certain teachers who expressed hesitancy, reluctance, and procrastination in responding to the questions.

2.5 Data Analysis Tools

The data collected from this study was analyzed quantitatively and qualitatively. Quantitative data collected from the questionnaire was analyzed using the Statistical Package for the Social Sciences (SPSS) version 22, whereas quantitative data was clustered into themes. the data collected from the interview was analyzed according to the embedded questions.

3. Findings

3.1 Quantitative Data

3.1.1 DigCompEdu Questionnaire Results

Table 04: Means and Standard Deviation of Professional Engagement

statements	mean	Standard deviation (SD)	weight
I use different digital channels to enhance communication with students, parents, and colleagues eg. emails, Facebook (DIGITAL CHANNELS)	4.47	1.216	agree
- I use digital technologies to work together with colleagues inside and outside my educational organization (COLLABORATION WITH COLLEAGUES USING DIGITAL TOOLS)	4.47	1.285	agree
- I develop my digital teaching skills through onsite or online training (DEVELOPMENT OF DIGITAL TEACHING SKILLS)	4.62	1.349	agree
Professional Engagement (PE)	4.52	0.915	agree

The results of the questionnaire's first dimension "professional development" is detailed in Table 04. Participants agreed on the statement of using digital channels with a mean of 4.47, a similar score with collaboration with colleagues using digital tools. They agree as well on the statement of development of digital teaching skills (4.62), making a total mean of 4.52 which corresponds with "agree" for professional engagement.

Table 05: Means and Standard Deviation of Digital Resources

statements	mean	SD	weight
- I use different internet sites and search strategies to find and select a range of different digital resources (SEARCH STRATEGIES)	4.94	1.254	agree
- I create my own digital resources and modify existing ones to adapt them to my needs (MODIFICATION OF EXISTING DIGITAL RESOURCES)	4.74	1.355	agree
- I protect sensitive content, e.g. exams, students' grades, personal data (SENSITIVE DATA)	5.35	1.178	Strongly agree
Digital Resources (DR)	5.01	0.915	agree

The results of the second dimension are displayed in Table 05 where the highest mean corresponds with strongly agree (5.35) was reported for protecting sensitive data statement. Using digital resources to search for strategies was reported as high 4.94. Teachers stated that they agree with the statement of modification of existing digital resources (4.74).

Table 06: Means and Standard Deviation of Teaching and Learning

statements	mean	SD	weight
- I consider how, when, and why to use digital technologies in class, to ensure that they are used with added value (VALUE CREATION)	5.15	0.958	Strongly agree
- When I integrate digital technologies, I control group work and encourage interaction (MONITORING INTERACTION AND GROUP WORK)	4.82	1.267	agree
- I use digital devices to plan my lessons and facilitate documentation. (DOCUMENTATION AND PLANNING)	5.32	0.727	Strongly agree
Teaching and learning	5.10	0.713	agree

Table 06 contains the results of the third dimension "teaching and learning". Teachers strongly agreed on two statements namely creating value through technology (5.15), and using digital devices for documentation and planning (5.32).They agreed on monitoring interaction and group work (4.84), and on teaching and learning dimension in general by (5.10).

Table 07: Means and Standard Deviation of Assessment

statements	mean	SD	weight
I use digital assessment formats to monitor student progress eg excel (TRACKING OF STUDENT PROGRESS)	4.15	1.234	Slightly agree
- I analyze all data available to me to identify students who need additional support. (ANALYSING DATA)	4.76	0.955	agree
- I use digital technologies to provide effective feedback (FEEDBACK)	4.47	1.134	agree
Assessment (A)	4.46	0.799	agree

Regarding assessment, teachers reported a high level of digital literacy (4,46) (see Table 07). Yet, they reported above average level of tracking students' progress using digital tools (4,15). Teachers agreed on the statements of analyzing data (4,76) and feedback (4,47).

Table 08: Means and Standard Deviation of Empowering Learners

statements	mean	SD	weight
- I use digital technologies to offer students personalized learning opportunities;e.g. I give different digital tasks to my students in order to address their needs (PERSONALISED LEARNING OPPORTUNITIES)	4.47	1.482	agree
- I use digital technologies for students to actively participate in class (ACTIVE PARTICIPATION)	4.62	1.303	agree
- I use digital technologies to enhance learners' critical thinking. (CRITICAL THINKING	4.26	1.333	Slightly agree
Empowering Learners (EL),	4.45	1.194	agree

The results of the sixth dimension "empowering learners" are shown in Table 08 (see table 08). Teachers slightly agreed with the statement of using digital technologies to enhance learners' critical thinking (4.26). However, they agreed with the other statements namely using digital technologies to personalize learning opportunities (4.47), active participation, and the overall dimension of empowering learners (4.45).

Table 09: Means and Standard Deviation of Empowering Learners

statements	mean	SD	weight
- I set up assignments or projects that require students to use digital means to communicate and collaborate with each other or with an outside audience (COMMUNICATION AND COLLABORATION)	4.44	1.353	agree
- I set up assignments that require students to solve real-life problems digitally and create digital content e.g. videos, audios, photos, digital presentations,.. (PROBLEM SOLVING AND INNOVATION)	4.71	1.142	agree
- I teach students how to behave safely and ethically online. Eg , assessing information and avoiding copy-paste information (SAFE AND RESPONSIBLE BEHAVIOUR)	4.44	1.481	agree
Facilitating Learners' Digital Competence (FLC)	4.53	1.079	agree

The results of the last dimension "Facilitating Learners' Digital Competence" are demonstrated in table 09. Teachers agreed on all the given statements with a range of means between 4.44 and 4.71. The total result of this dimension was 4.53 which corresponded with a relatively high level of facilitating learners' digital competence.

3.1.2 Teachers' Level of Digital Competence Vs their Level under the CBA

Table 10: Teachers' Level of Digital Competence Vs their Level under the CBA

	mean	SD	
Level of digital competence	2.56	1.160	explorer
Digital competence under CBA	4.68	0.688	leader

The overall digital competence means are presented in Table 10. The level of digital competence mentioned by teachers when they assessed themselves directly was 2.56 which corresponds with slightly disagree or a low level, that is, an explorer. However, teachers reported a high level of digital competence under the CBA which ultimately corresponds with a leader.

3.1.3 Correlations with Digital Literacy

Table 11: Correlations with Digital Literacy

		EXPERIENCE	AGE	EDUCATION
DC	Pearson Correlation	-0.417*	-0.220	-0.054
	Sig. (2-tailed)	0.014	0.211	0.763
	N	34	34	34
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

The analysis of correlations between digital competence under CBA and experience, age and education variables are detailed in table 11. Age and education correlations were not statistically significant ($p > 0.05$). However, the correlation between experience and digital competence under CBA was significant statistically ($p < 0.05$). It indicates a weak negative linear relationship between the two variables.

3.2 Qualitative Data

3.2.1. The Challenges of Developing Teachers' Digital Literacy (Questionnaire)

What are the obstacles that hinder you from using digital technologies for teaching purposes (inside and outside the classroom)?

Table 12: Challenges of Developing Teachers' Digital Literacy

Inside the classroom	Outside the classroom
- Lack of technological equipment (76.47%) - Time constraints (23.52 %) - Lack School and administrative support - Large classes - Negative effect of technology (it distracts students)	- Few opportunities to use technology for teaching purposes - Financial problems - Time constraints due to work hours

What are the obstacles that hinder you from using digital technologies for teaching purposes (inside and outside the classroom)?

The obstacles mentioned by secondary school teachers are categorized according to themes and frequency (see Table 12). Inside the classroom, most of the participants mentioned the lack of

digital equipment (76.6%), and they mentioned time constraints as well (23.52%) and other challenges such as large classes. Outside the classroom, teachers claimed that there are few opportunities to use technology for teaching purposes. Moreover, they mentioned financial problems and they reiterated the issue of time constraints.

3.2.2. The Role of the CBA in Developing Teachers' Digital Literacy (Questionnaire)

Do you think that the CBA curriculum encourages you to develop your digital literacy as a teacher? Explain.

Table 13: Opinions on Developing Teachers' Digital Literacy under the CBA Curriculum

	Yes	No	Sometimes
Numbers	N=11	N= 18	N=5
Explanation	-The curriculum is flexible, "we can always modify" -CBA implies to be updated	- The curriculum is demotivating because of outdated textbooks, long syllabi, and large classes	- The projects are the only way to learn and use technology, textbooks and teachers' books do not encourage that as they need urgent changes.

The opinions of the participants are categorized in Table 13. Most teachers answered negatively to this question; they explained their negative answers by mainly demotivating curriculum and outdated textbooks. 11 teachers postulated that the curriculum encouraged them to develop their digital literacy as teachers because it was flexible and the CBA implied "being updated". The remaining 5 teachers answered this question by sometimes, they claimed that the projects were their only means to learn about and use technology.

3.3 Qualitative Data

3.2.1 Teachers' Opinions about the Role of the CBA in Developing their Digital Literacy (Interview)

Do you think that teachers' digital literacy is important in the CBA, WHY?

Teachers positively answered this question and claimed that CBA aims could not be achieved without professional development and technology "Since the CBA is based on linking learning with real life of course we need to be digitally well literate"

3.2.2 The Main Components of the CBA That Motivate Teachers' Digital Literacy (Interview)

What are the main components of the CBA that motivate you the most to develop your digital literacy?

All Teachers agreed on the project as the first element that propels them to learn about technologies "When my learners work on a project, they use words and technologies that I don't know, so I look for these technologies and I try to integrate them within the next lessons". Some teachers mentioned "Some lessons".

3.2.3 Strategies to Develop Teachers' Digital Literacy within CBA (Interview)

Can you suggest some strategies that can develop teachers' digital literacy within the CBA?

Teachers suggested that seminars should be more practical and urgent textbook update was needed, they also suggested fewer hours of work so they could focus on personal development .

4. Discussion

The results of the current study further demonstrate the complex nature of digital literacy. Using an adapted version of the DigcCompEdu model, the researchers have concluded that EFL teachers in secondary schools are highly digitally literate under the CBA. Teachers integrate technology to adhere to the main principles of CBA teaching namely: active participation, project work, problem-solving, group work, and professional engagement. Teachers mark above-average levels in their digital competence regarding tracking students' progress and enhancing students' critical thinking. However, a very high level of digital competence is reported in protecting sensitive data, creating value, and documentation and planning. These results are unexpected due to the major issues that previous studies report about the CBA(Ghezir et al., 2022).

A possible explanation of the previous results is the limited required level of teachers' digital literacy under the CBA in the Algerian context. To what extent teachers should be digitally literate under the incremental exigency of technology? A hint to answer this question is by comparing teachers' overall digital competence with their digital competence under the CBA. Teachers have reported themselves as just explorers in digital competence while in the Algerian CBA context, they have perceived themselves as leaders. Moreover, teachers claim that their learners are more digitally literate and the project work is the best CBA rubric to assess and develop their digital skills. These results further highlight the challenges that teachers encounter under the CBA namely: the outmoded curriculum which downgrades creative thinking skills and focuses on old competencies to the point that teachers are perceived as leaders or very digitally competent according to the framework of the CBA in Algeria.

Besides the aforementioned challenges, teachers encounter a host of issues that may impede the proper development of their digital literacy. They lack technological equipment and administrative support; they face time constraints issues due to crowded classes along with curriculum and work hours pressures; and financial problems. These issues by no means lead to teachers' demotivation sooner or later. Researchers have noticed signs of teachers' demotivation; first, reluctance to send the questionnaire online or through scanning the QR code; second, reluctance to answer the questionnaire in person; third, the negative correlation between experience and digital literacy, that is, the more experienced the teachers are, the less digitally literate are. This result contradicts Zhang findings (Zhang, 2023); yet, different contexts result in different results.

Notwithstanding, secondary school teachers have highlighted the importance of digital literacy within the CBA providing possible suggestions for further improvements. These findings are in line with previous studies which stress the significance of digital literacy within the CBA (Ali Rabah, 2014). Additionally, teachers claim that project work motivates them to develop their digital literacy. They have suggested an update for textbooks and that the seminars should be more practical. Teachers should be updated by devoting special practical programs that focus on digital literacy (Al Khateeb, 2017; Gutiérrez-Ángel et al., 2022).

The limitations of the present study are sample size and self-report. The small size of the sample minimized the statistical significance of important results namely the correlations of digital competence and variables like age and education level. Although widely accepted, the self-report method suffers from certain restrictions such as bias and retrospection issues that might interrupt result generalization.

Conclusion

The current study sheds light on secondary school EFL teachers' digital literacy under the CBA. Unexpectedly, the results indicate that teachers are highly digitally literate according to the CBA dimensions assessed by an adapted version of the DigCompEdu model. A plausible explanation for these results lies in the perceived lower requirements for digital literacy under the CBA in the Algerian context; particularly, the outdated textbooks that require little or no digital skills. However, the project work signals the gap between teachers' perceived competence and the actual demands of digital literacy and it motivates teachers to develop their digital literacy. As recommendations, practical seminars and special programs should be devoted to developing teachers' digital literacy; updates to EFL textbooks and curricula should be consistent; contextual issues should be evaluated and solved to better teaching and learning conditions. Despite the limitations, this study vouchsafes valuable insights into the scene of digital literacy in the Algerian teaching context.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Appendices

Appendix 01: Questionnaire

Dear participant,
We really appreciate your willingness to participate. Your contribution will add valuable insights to this research. Thank you for your time. (you can scan this QR code to fill in this questionnaire virtually and send it to your colleagues).

Part One

1- Please select your gender male ☐ female ☐

2- What is your age?

Less than 30 years ☐ from 30 to less than 40 ☐
from 40 to less than 50 ☐ 50 years and more ☐

3- How many years have you been teaching?

Less than 5 years ☐ from 5 to less than 10 ☐
from 10 to less than 15 ☐ 15 years and more ☐

4- What is the level of education that you have completed?

Normal Superior School (ENS) ☐ 4 year college (Bachelors) ☐
Master's degree ☐ PhD degree ☐

5- How do you currently assess your digital competence?

A1 : Newcomer ☐ A2: Explorer ☐
B1: integrator ☐ B2: Expert ☐
C1: Leader ☐ C2: Pioneer ☐

Part Two

Using this scale, please indicate for each statement to what degree it corresponds to your competence:

1	-	2	-	3	-	4	-	5	-	6
Strongly disagree		Slightly disagree		Disagree		Slightly agree		Agree		Strongly agree

	Statements	1	2	3	4	5	6
1- Professional Engagement (PE)	- I use different digital channels to enhance communication with students, parents, and colleagues eg. emails, Facebook; (DIGITAL CHANNELS)						
	- I use digital technologies to work together with colleagues inside and outside my educational organization (COLLABORATION WITH COLLEAGUES)						
	- I develop my digital teaching skills through onsite or online training (DEVELOPMENT OF DIGITAL TEACHING SKILLS)						
2- Digital Resources(DR)	- I use different internet sites and search strategies to find and select a range of different digital resources (SEARCH STRATEGIES)						
	- I create my own digital resources and modify existing ones to adapt them to my needs (MODIFICATION OF EXISTING DIGITAL RESOURCES)						
	- I protect sensitive content, e.g. exams, students' grades, personal data (SENSITIVE DATA)						
3- Teaching and [illegible]	- I consider how, when, and why to use digital technologies in class, to ensure that they are used with added value (VALUE CREATION)						
	- When I integrate digital technologies, I control group work and encourage interaction (MONITORING INTERACTION AND GROUP WORK)						
	- I use digital devices to plan my lessons and facilitate documentation. (DOCUMENTATION AND PLANNING)						
4- Assessment (A),	- I use digital assessment formats to monitor student progress eg excel (TRACKING OF STUDENT PROGRESS)						
	- I analyze all data available to me to identify students who need additional support. (ANALYSING DATA)						
	- I use digital technologies to provide effective feedback (FEEDBACK)						
5- Empowering Learners (EL),	- I use digital technologies to offer students personalized learning opportunities;e.g. I give different digital tasks to my students in order to address their needs (PERSONALISED LEARNING OPPORTUNITIES)						
	- I use digital technologies for students to actively participate in class (ACTIVE PARTICIPATION)						
	- I use digital technologies to enhance learners' critical thinking. (CRITICAL THINKING)						
6- Facilitating Learners' Digital Competence (FLC)	- I set up assignments or projects that require students to use digital means to communicate and collaborate with each other or with an outside audience (COMMUNICATION AND COLLABORATION)						
	- I set up assignments that require students to solve real-life problems digitally and create digital content e.g. videos, audios, photos, digital presentations,.. (PROBLEM SOLVING AND INNOVATION)						
	- I teach students how to behave safely and ethically online. Eg , assessing information and avoiding copy-paste information (SAFE AND RESPONSIBLE BEHAVIOUR)						

Part Three

What are the obstacles that hinder you from using digital technologies for teaching purposes (inside and outside the classroom)?

……

……..……..……

Do you think that the curriculum encourages you to develop your digital literacy as a teacher? Explain.

……...

……...

Appendix 02: Interview

A- Do you think that teachers' digital literacy is important in the CBA, WHY?

B- What are the main components of the CBA that motivate you the most to develop your digital literacy?

C- Can you suggest some strategies that can develop teachers' digital literacy within the CBA?