

## *Examining the E-Assessment Literacy of Iranian English as A Foreign Language Teachers*

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### **ABSTRACT**

**I** It is essential for language educators to possess proficiency in assessment practices. Currently, many instructors teaching English as a Foreign Language (EFL) are incorporating online English lessons into their curriculum due to the evident benefits of this mode of teaching and learning. This mixed-methods study aimed to investigate the e-assessment literacy of Iranian EFL teachers. The study included 66 EFL instructors selected from various universities, with 7 participating voluntarily in interviews. Data were gathered through the E-assessment Literacy Questionnaire and semi-structured interviews. Quantitative analysis involved calculating the frequency and percentage of responses to the questionnaire items, while qualitative analysis utilized MAX Qualitative Data Analysis (MAXQDA) 10 for thematic analysis. The quantitative findings indicated that a majority of EFL teachers perceived themselves as proficient in e-assessment and held positive views toward it. Qualitative analysis revealed several themes regarding EFL teachers' perceptions of e-assessment. Additionally, both advantages and disadvantages were identified concerning Iranian EFL teachers' e-assessment literacy. The study found that 64.1 percent of EFL teachers believed they were e-assessment literate. Moreover, EFL teachers exhibited the highest competency mean in e-assessment but scored lower in awareness of e-assessment. These findings hold implications for EFL teacher education material developers, teachers, and researchers.

**KEYWORDS:** *Assessment Literacy, EFL teachers, E-Assessment*

## 1. INTRODUCTION

Quite a number of countries have stepped up various measures to sustain high quality of instruction as an acknowledgement of its effect on community growth (Zhang et al., 2021). Part of these attempts has been to carry out related experiments to help analyze crucial areas of concern. Therefore, educational experts have explored numerous variables. Among all these variables, teachers seem to be of greatest significance.

To begin with, teachers are viewed as one of the main parties affecting the development of education quality, and as a result, in the achievement of the promised educational objectives. Their opportunity to have an effect on the achievement of any educational attempt arises from their position as the primary contributors in the education. The truth is that they can offer activities that can help improve student learning, hence offering students the opportunities to build abilities that they need to flourish in the future. Consequently, due to this specialized role, they are in a situation to support students to make education more effective.

Due to the teachers' impact on the successful performance of the educational process and on the enhancement of education quality, it has been accentuated that they have to have characteristics that enable them in carrying out their teaching role and in contributing to student's learning (Marsh, 2010). Two of these characteristics are possessing good knowledge, and suitable application of educational principles that include assessment. Thus, it is critical for instructors to be literate in terms of assessment (Popham, 2009; Zhang et al., 2021).

Research indicates that teachers often spend a significant portion of their educational time engaged in assessment-related activities (Stiggins, 1991). Given the investment of time in assessing students, it is essential for teachers to understand the purpose of assessment, how it is conducted and evaluated, how to interpret the results, and how to utilize them for informed decision-making. The level of proficiency teachers possess regarding assessment is referred to in the literature as assessment literacy.

Defining literacy itself is complex, as the term has been used variably by researchers and scholars depending on their study's context (Abbasi et al., 2020). However, the most commonly explored area is teachers' assessment literacy which focuses primarily on the fundamental aspects of measurement directly relevant to classroom practices (Yan & Fan, 2020). Assessments function as tools to determine students' understanding and readiness before, during, and after instruction (Green & Johnson, 2010). According to Pellegrino (2003), information is gathered and used to infer students' skills and knowledge, with actions such as final exams or impromptu quizzes exemplifying teachers' assessment practices. The goal of assessing student learning is to inform and improve future outcomes.

Alternatively, assessment literacy can be succinctly defined as understanding the fundamental principles of sound assessment practices (Stiggins, 2002). Essentially, individuals literate in assessment possess the knowledge and skills to conduct, score, and interpret assessments accurately. Furthermore, the focus on teacher's assessment literacy primarily concerns the foundational principles of measurement directly applicable to classroom contexts

(Popham, 2009). While assessment literacy has predominantly centered on teachers, it is also relevant to learners. Viewing assessment literacy solely through the lens of teachers' ability to gauge learners' knowledge may overlook the crucial role which learners have in the learning process. Recognizing that the ultimate goal of teaching involves facilitating changes in learners' behavior due to assessment, known as the washback effect, (Davies, 1995) suggests that at least part of the focus of assessment literacy should be directed towards learners.

Apart from learners, a crucial component of assessment lies with the teacher. In recent years, there has been a growing recognition of teachers' proficiency in assessment (Fulcher, 2012). The reality is that teachers navigate through a variety of assessment practices in their professional roles. For example, they often design and implement classroom assessment tasks independently, sometimes without prior testing, and typically assess them without a second evaluator. Teachers also employ various types of formative and summative assessments and develop grading criteria for their institutions. Additionally EFL instructors frequently encounter external testing procedures and are tasked with advising students on which external proficiency tests may align with their goals outside of school. All of these responsibilities demand a significant level of assessment literacy.

It is undeniable that technology has become indispensable in language teaching and learning field (Alruwais et al., 2018). Indeed, it is now difficult to envision language instruction and learning without incorporating technological interventions. Currently, many EFL teachers integrate online English lessons into their

curricula because they have observed the numerous benefits offered by this medium (Lopez, 2006). The Internet provides a vast array of academic resources and teaching materials for EFL educators to integrate into their programs, as advocated by many experts among which, Warschauer et al. (2011) highlight authenticity, literacy, interaction, vitality, and learner empowerment as key reasons for utilizing the Internet in English teaching and assessment.

Thus, the significance of assessment and technology, which inevitably brings the concept of e-assessment to the forefront has recently attracted more attention. Consequently, knowledge of e-assessment, commonly referred to as e-assessment literacy, becomes increasingly important (Alruwais et al., 2018). With this in mind, the present study aims to investigate assessment literacy among Iranian EFL instructors within a computer-assisted language learning (CALL) environment.

Assessing learner capabilities within classroom instruction stands as one of the most crucial responsibilities for instructors. Possessing assessment literacy enables teachers to make more informed decisions guided by the objectives of teaching and learning. Insufficient knowledge and application by teachers can diminish the overall quality of education (Popham, 2009). Gronlund and Linn (1990) emphasized that teachers engaging in assessment should initially identify their students' needs, understand learning and instructional processes, pinpoint student learning challenges, and ensure learning outcomes. Contemporary researchers have directed their efforts towards implementing effective assessment practices to enhance student learning (Ameen et al., 2019; Campbell & Collins,

2007; Wang, 2011). Teachers equipped with assessment competencies can grasp students' concepts, beliefs, and reasoning to promote learning effectively. Consequently, assessment literacy is regarded as an essential professional skill and competency that teachers should possess.

However, despite the significance of assessment literacy, many EFL instructors possess limited knowledge in this domain. Unfortunately, upon completing their teacher-education programs, most educators have not been required to gain comprehensive understanding of assessment practices. For these teachers, exposure to assessment principles and procedures may have been minimal, possibly including only a few sessions during their academic training, or perhaps a single unit within a semester (Stiggins et al., 2006). This lack of emphasis on assessment can undermine the efficacy of the entire teaching process, as teachers may lack the theoretical and practical tools to assess the impact of their instruction on student learning.

A considerable number of today's teachers have limited familiarity with assessment practices. For many teachers, assessments may evoke apprehension. Unfortunately, the majority of teachers complete their formal education without a comprehensive understanding of assessment principles. Their exposure to assessment concepts may have been confined to a few instructional sessions during their academic coursework, or possibly just a single unit to fulfill academic requirements (Stiggins et al., 2006).

Similarly, in recent times, many Iranian educators have demonstrated limitations in their grasp of

fundamental concepts related to educational measurement (Razavipour, 2014). Fortunately, there has been an increasing demand for pre-service training programs that furnish teacher education candidates with more comprehensive knowledge regarding educational assessment (Cheok et al., 2017; Razavipour, 2014). It is anticipated that in the forthcoming years, assessment literacy among the teaching workforce in Iran will strengthen. However, at present, such assessment training programs are still far from optimal and efficacious.

Another aspect worth considering is e-assessment and its potential contributions to any educational system. E-assessment holds the promise of enhancing efficiency and reducing costs (Ahmadi et al., 2021; Connolly et al., 2007). According to Boyle and Hutchison (2005), e-assessment goes beyond being merely an alternative testing method. Internet-based tests, primarily objective in nature, can significantly enhance classroom assessment practices. In addition to cost-effectiveness and flexibility, features such as instant feedback and improved reliability through computer scoring (Boyle & Hutchison, 2005), along with the potential for structured and non-structured environments and advancements in artificial intelligence, position e-assessment as a compelling option for various assessment needs. Users have reported that e-assessment is intuitive and user-friendly (Boyle & Hutchison, 2005), and its implementation holds considerable promise for enhancing student learning experiences (Jordan, 2013; Yan & Fan, 2020). These considerations emphasize the importance of acquiring the skills necessary to implement e-assessment in any ELT program, including those conducted online in Iran.

## **2. PURPOSE OF THE STUDY**

Upon reviewing the existing literature, it seems that the present researchers were unable to locate any research study pertaining to the electronic assessment literacy of Iranian EFL teachers. Therefore, the primary objective of this study was to investigate the proficiency of Iranian EFL teachers in Computer-Assisted Language Learning (CALL).

To achieve this objective, the following research questions are addressed:

1. Are Iranian EFL teachers literate in e-assessment?
2. What are Iranian EFL teachers' perceptions towards e-assessment?
3. What are the strengths and weaknesses of Iranian EFL teachers' e-assessment literacy?

## **3. MATERIAL AND METHODS**

### **3.1. Participants**

For the purpose of the study, 66 EFL instructors were invited from different universities. They all had a PhD degree (60.6%) or an MA degree (39.4%) in teaching English as a foreign language (TEFL). They were selected based on their availability in telegram and WhatsApp groups during the Corona pandemic based on the availability of participants and their free provided convenience sampling (Dornyei, 2007). The results from demographic questions in the questionnaire show that 27 of the respondents were male and 39 were female. Their teaching experience ranged from one to twenty years and it was revealed that 15.2% of the participants had about one



to five years of experience in academic teaching, 24.2% of them had six to ten years of teaching experience, 15.2% had ten to fifteen years, and only 45.5% of them had experienced academic teaching for about 20 years. Most of the academics worked with e-assessment for more than three years (93.9%), while 6.1% of the participants estimated that they had been working with e-assessment above three years. The time that they spent on e-assessment was estimated and descriptive statistics showed that it has been used for about 2 hours by 60% and for about 30 minutes by 33% of the participants. From among the total number of participants who submitted the questionnaire, only 7 EFL instructors volunteered to cooperate with the researcher and participate in the interview. To select the participants congruent with the research morality, first of all, the participants were made aware of the objective of the study. Then, the participants were assured that their personal information would be kept confidential and their anonymity would be maintained.

### **3.2. Instruments**

#### ***3.2.1. E-assessment literacy questionnaire***

The researcher-made E-Assessment Literacy Questionnaire revolved around the fundamental concepts of e-assessment literacy to measure the EFL teachers' literacy, their awareness of the quality of e-assessment literacy, and their perceptions toward the application of e-assessment literacy in classroom practices. Based on the existing factors and models proposed in previous studies (e.g., Ahmadi et al., 2021; Alruwais et al., 2018; Shahzamani & Tahririan, 2021) for e-assessment literacy, the researcher developed the questionnaire considering the

fundamental concepts, items, and the experts' reviews. It was developed in five subscales including teachers' knowledge and awareness, skill, perception, and competence. It consisted of 28 close-ended questions in a four-point Likert scale. Cronbach's Alpha reliability of the questionnaire was calculated .89. Moreover, the content validity of the questionnaire was confirmed through expert judgment. That is, five TEFL experts confirmed the appropriateness of this tool for the present study.

### **3.2.2. *Semi-structured interview***

A semi-structured interview was conducted, during which participants were encouraged to share their thoughts and experiences regarding e-assessment literacy. First, a thorough investigation was done to know any theories, frameworks, and instruments applied to deal with e-assessment measuring. Based on the previous studies and the designed questionnaire, the conceptual items in the e-assessment were prepared for interview questions.

The open-ended questions addressed the issues and challenges related to EFL teachers' e-assessment literacy; their awareness, knowledge, skills, competence, and perception. These concepts were analyzed to design the interview checklist. The experts specialized in the field reviewed and commented on the content and language of the questions. In accordance with the experts' comments, questions clearly focused on their training, knowledge, their capability in running e-assessment, and perceptions. The participants were free to interview in their mother tongue (Persian) or English. It helped them express their ideas easily and prevent probable barriers.

The interviews were individual in nature. In addition to recording their voice, the researcher took notes to ensure that all items on the checklist were covered and the required information was gathered on the determined domains. The researcher interviewed 7 volunteers (3 male and 4 female) among the participants and recorded the whole session. Each interview lasted approximately 30-40 minutes on a video call through WhatsApp or Telegram. Data were transcribed carefully and sorted using the codes and conceptual items followed by identifying major themes in e-assessment literacy.

### **3.3. Procedure**

To collect the data, first the sampling was done, observing the research ethics. Then, the Google form of the E-Assessment Literacy Questionnaire was sent to the participants via social networks including WhatsApp and Telegram to be filled. Next, the semi-structured interview was implemented as explained above. Finally, the collected quantitative and qualitative data were exposed to appropriate data analysis procedures.

### **3.4. Data analysis**

To analyze the data, quantitative and qualitative procedures were used. The quantitative procedures included calculating the frequency and percentage of the participants' answers to the items of the questionnaire. With regard to the qualitative procedures, MAX Qualitative Data Analysis (MAXQDA) 10 was used to expose the qualitative data to thematic analysis.

## 4. STUDY AND RESULTS

### 4.1. Results of the quantitative phase

To address the initial research question regarding the e-assessment literacy of Iranian EFL teachers, the frequencies and percentages of their overall e-assessment literacy were computed. Table 1 presents the frequencies and percentages for the EFL teachers' overall e-assessment literacy. The results showed that 64.1 percent (9.7 % strongly agree + 54.4 percent agree) believed that they were literate in e-assessment. On the other hand, 29.5 percent disagreed, and another 6.5 strongly disagreed with the idea that they were literate in e-assessment.

*Table 1*  
*Frequencies and percentages of overall e-assessment literacy*

	FREQUENCY	PERCENT
Strongly disagree	78	6.5
Disagree	354	29.5
Agree	654	54.4
Strongly agree	116	9.7
Total	1202 <sup>1</sup>	100.0

Subsequently, the frequencies and percentages regarding the EFL teachers' understanding of e-assessment literacy were computed. Table 2 displays the frequencies and percentages related to the EFL teachers' awareness of e-assessment literacy. The findings indicated that the majority of EFL teachers, comprising 51.5 percent (11.1% strongly disagree + 39.4% disagree), expressed a lack of awareness regarding e-assessment. On the other hand; 40.4

<sup>1</sup> The e-assessment questionnaire had 19 items which were filled and returned by 66 EFL teachers. The overall number of responses was 19\*66= 1254. The sum of frequencies was less than 1254, due to the fact that some of the teachers left some of the items unanswered.

percent agreed, and another 9.1 percent strongly agreed with the idea that they were aware of e-assessment.

**Table 2**  
*Frequencies and percentages of awareness of e-assessment literacy*

	FREQUENCY	PERCENT
Strongly disagree	22	11.1
Disagree	78	39.4
Agree	80	40.4
Strongly agree	18	9.1
Total	198	100.0

Following that, the frequencies and percentages concerning the EFL teachers’ understanding of e-assessment literacy were computed. Table 3 presents the frequencies and percentages pertaining to the EFL teachers’ knowledge of e-assessment literacy. The findings revealed that the majority of EFL teachers, totaling 66.6 percent (9.8% strongly agree + 56.8 percent agree), expressed confidence in their knowledge of e-assessment. On the other hand, 26.5 percent disagreed, and another 6.9 strongly disagreed with the idea that they had knowledge on e-assessment.

**Table 3**  
*Frequencies and percentages of knowledge on e-assessment literacy*

	FREQUENCY	PERCENT
Strongly disagree	18	6.9
Disagree	70	26.5
Agree	150	56.8
Strongly agree	26	9.8
Total	264	100.0

In the subsequent phase, the frequencies and percentages regarding the EFL teachers’ proficiency in e-assessment literacy were computed. Table 4 displays the

frequencies and percentages related to the EFL teachers’ skills in e-assessment literacy. The outcomes indicated that the majority of EFL teachers, amounting to 56 percent (6% strongly agree + 50 percent agree), asserted that they possessed proficiency in e-assessment. On the other hand, 37.9 percent disagreed, and another 6.1 strongly disagreed with the idea that they had skills in e-assessment.

**Table 4**  
*Frequencies and percentages of skills in e-assessment literacy*

	FREQUENCY	PERCENT
Strongly disagree	16	6.1
Disagree	100	37.9
Agree	132	50.0
Strongly agree	16	6.0
Total	264	100.0

Subsequently, the frequencies and percentages regarding the EFL teachers’ competency in e-assessment literacy were computed. Table 5 presents the frequencies and percentages concerning the EFL teachers’ competence in e-assessment literacy. The findings indicated that the majority of EFL teachers, comprising 55.1 percent (9.4% strongly agree + 55.7 percent agree), believed they possessed competence in e-assessment. On the other hand, 30.2 percent disagreed, and another 4.7 strongly disagreed with the idea that they had competence in e-assessment.

**Table 5**  
*Frequencies and percentages of competence in e-assessment literacy*

	FREQUENCY	PERCENT
Strongly disagree	10	4.7
Disagree	64	30.2
Agree	118	55.7
Strongly agree	20	9.4
Total	212	100.0

Finally, the descriptive statistics was run for the overall e-assessment questionnaire and its components. Table 6 shows the descriptive statistics for the overall e-assessment questionnaire and its components. The average score on overall e-assessment was 2.67. The results also indicated that the Iranian EFL instructors had the highest mean on competence in e-assessment; while their lowest mean was on being aware of e-assessment.

**Table 6**  
*Descriptive statistics overall e-assessment and components*

	N	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION	VARIANCE
Awareness	66	1	4	2.59	.559	.313
Knowledge	66	1	4	2.60	.492	.242
Skill	66	1	4	2.66	.491	.241
Competence	66	2	4	2.70	.522	.272
Total	66	1	4	2.67	.413	.171

To address the second research question regarding Iranian EFL teachers’ perceptions of e-assessment quantitatively, the frequencies and percentages regarding the EFL teachers’ perception of e-assessment literacy were initially calculated. Table 7 presents the frequencies and percentages related to the EFL teachers’ perception of e-assessment literacy. The findings revealed that the majority of EFL teachers, accounting for 79.5 percent (13.6% strongly agree + 65.9 percent agree), held positive perceptions towards e-assessment. Conversely, 15.9 percent disagreed, and an additional 4.6 percent strongly disagreed, indicating negative perceptions towards e-assessment.

**Table 7**  
*Frequencies and percentages of perception toward e-assessment literacy*

	FREQUENCY	PERCENT
Strongly disagree	12	4.5
Disagree	42	15.9
Agree	174	65.9
Strongly agree	36	13.6
Total	264	100.0

Next, the descriptive statistics was calculated for perception towards e-assessment. Table 8 shows the descriptive statistics for perception towards e-assessment. The Iranian EFL teachers’ average score on perception towards e-assessment was 2.80 higher than the overall mean on e-assessment, and its components, as shown in Table 8.

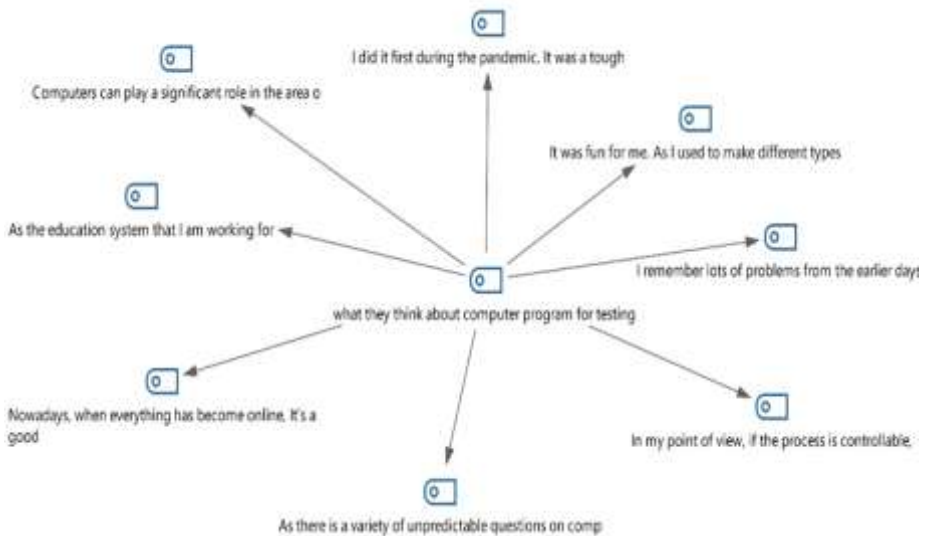
**Table 8**  
*Descriptive statistics perception toward e-assessment*

	N	MINIMU M	MAXIMU M	MEA N	STD. DEVIATI ON	VARIAN CE
Percepti on	6 6	1	4	2.80	.494	.244

**4.2. Results of the qualitative phase**

To qualitatively find an answer for the second research question concerning Iranian EFL teachers’ perceptions towards e-assessment, the interview data were exposed to the thematic analysis by MAXQDA. The results are shown in Figures 1 to 4. Figure 1 shows EFL teachers’ thoughts about using computer programs in the testing process.

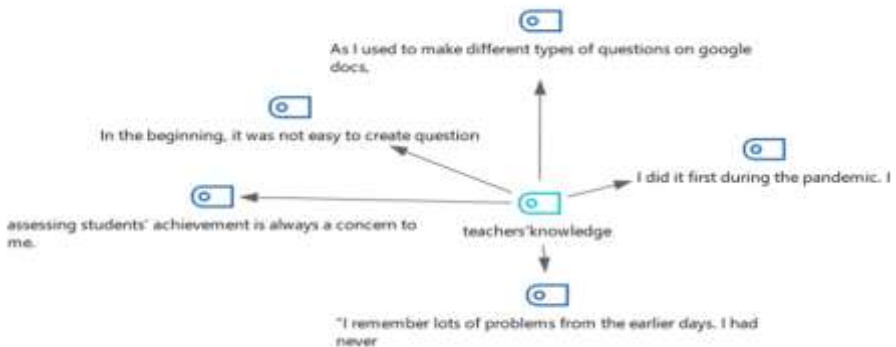




**Figure 1. The map showing EFL teachers’ thoughts about using computer programs in the testing process**

As shown in Figure 1, EFL teachers’ thoughts about using computer programs in the testing process, teachers thought that computers can be instrumental in the area of testing and assessment; the necessary infrastructure for such a kind of testing is not available in the ministry of education; nowadays, when everything has become online, it’s a good idea to use computer programs for testing students; there is a variety of unpredictable questions on computer tests; if the process is controllable, the results will be as same as in paper exams; teachers remember lots of problems from the earlier days; they did it first during the pandemic; and it was fun for them; and as teachers used to make different types of questions on google docs, they had no problem and they took online quizzes and exams several times.

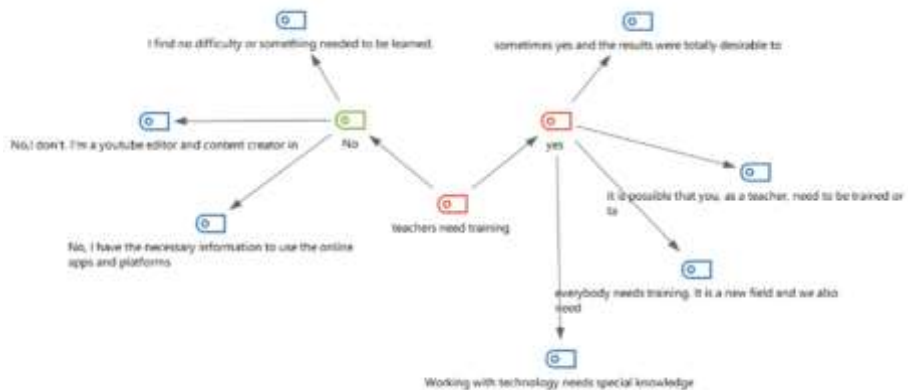
Figure 2 shows EFL teachers’ knowledge and awareness of e-assessment.



**Figure 2. The map showing EFL teachers’ knowledge and awareness of e-assessment**

As indicated in Figure 2, in the beginning, it was not easy to create question types and save them one by one; assessing students’ achievement is always a concern to teachers; teachers remember lots of problems from the earlier days; teachers did it first during the pandemic; and as teachers used to make different types of questions on google docs, they had no problem and they took online quizzes and exams several times.

Figure 3 demonstrates EFL teachers’ points of view about their training regarding their e-assessment needs.



**Figure 3. The map showing EFL teachers’ points of view about training on their e-assessment needs**

According to Figure 3, some teachers find no difficulty or something needed to be learned; some teachers are YouTube editor and content creator in this field; and teachers have the necessary information to use the program. According to some teachers, for new platforms, they usually need help and training; everybody needs training; it is a new field; working with technology needs special knowledge; sometimes they needed training and the results were totally desirable; and it is possible that you, as a teacher, need to be trained. Figure 4 indicates EFL teachers' experience in e-assessment.



**Figure 4. The map showing EFL teachers' experience in e-assessment**

According to Figure 4, during the pandemic, they had to test vocabulary, and grammar; actually they've spent most of their time teaching online; for most classes, students were asked to write; at first, communicating

online was hard; teachers had a grammar test in a multiple-choice format, it was easier; for listening and speaking courses, teachers always had a problem; it was big blue button platform; and actually it was for the speaking class.

To address the third research question regarding the strengths and weaknesses of Iranian EFL teachers' e-assessment literacy qualitatively, the interview data underwent thematic analysis using MAXQDA. The findings are depicted in figures 5 and 6. Figure 5 illustrates the benefits of Iranian EFL teachers' e-assessment literacy.



**Figure 5. The map showing the advantages of EFL teachers' e-assessment literacy**

As seen in Figure 5, the advantages of e-assessment were providing a fancier and more attractive place for the exam; students can connect to the language easier; not only

can the learners attend the test from home, but they can be constantly assessed even by their peers and themselves; time saving, better assessment; the results of the test are easily available by machine scoring; both the input of the test and the output could be in the form of text, graphics, audio and video; it helps teachers to have assessment even if they are not attending classroom; it also gives students a chance to have a better and more attractive atmosphere of the exam; it allows teachers to save time while checking the assessment; teachers have no roles in the results; students may have more comfort while they are taking parts in exams; online assessment helps teachers run quizzes in a short time and rate; online assessment offers automatic correction for multiple-choice items and yes-no-type questions; it really saves time and effort; and the students cannot cheat.

Figure 6 indicates the disadvantages of Iranian EFL teachers' e-assessment literacy.

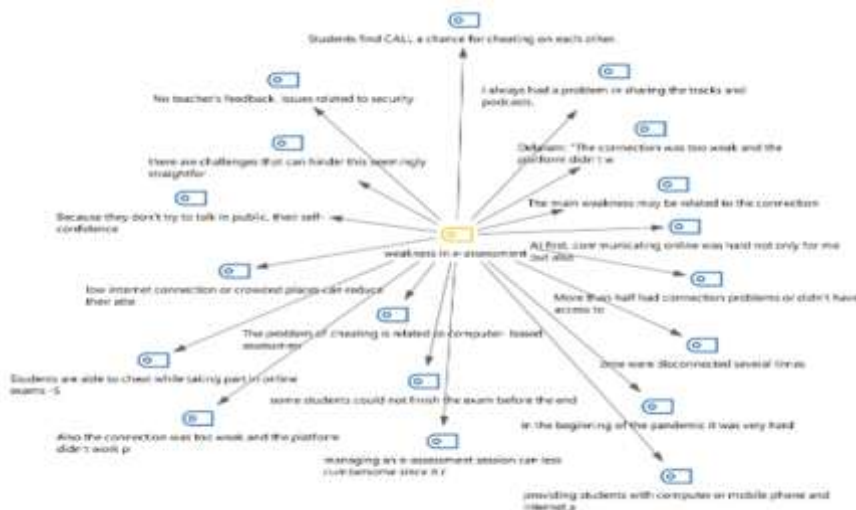


Figure 6. The map showing the disadvantages of Iranian EFL teachers' e-assessment literacy

As shown in Figure 6, the weaknesses were absence of teacher's feedback and issues related to security; students are able to cheat while taking part in online exams; students find CALL a chance for cheating with each other; low internet connection or crowded places can reduce students' attention; because students don't try to talk in public, their self-confidence may decrease; the connection was too weak and the platform didn't work; there are challenges that can hinder this seemingly straightforward process; managing an e-assessment session can be less cumbersome; the problem of cheating is related to computer-based assessment; some students could not finish the exam before the end of the time; providing students with computer or mobile phone and internet access; in the beginning of the pandemic it was very hard; at first, communicating online was hard; internet disconnection; more than half had connection problems or didn't have access to the microphone; and teachers had a problem in sharing the tracks and podcasts.

## 5. DISCUSSION

This study aimed to address three research questions. Regarding the first research question concerning Iranian EFL teachers' proficiency in e-assessment, the findings revealed that 64.1 percent of EFL teachers believed they were literate in e-assessment. Furthermore, 51.5 percent of EFL teachers expressed a lack of awareness regarding e-assessment. Additionally, 66.6 percent of teachers indicated they possessed knowledge of e-assessment. Moreover, 56 percent of teachers perceived themselves as skilled in e-assessment. Also, 55.1 percent of teachers

believed they had competence in e-assessment. The average score of teachers on overall e-assessment was 2.67 which indicated a high mean. Finally, Iranian EFL teachers attained the highest mean in competence in e-assessment, while their lowest mean was observed in awareness of e-assessment.

To interpret this finding, it can be argued that possibly, the EFL teachers' achievements in implementing e-assessment have outnumbered their failures. What is more, it is possible that the EFL teachers have not received a high volume of complaints from students and their parents, as well as other groups of stakeholders on the way they have performed e-assessment. Moreover, potentially, EFL teachers' motivation to use e-assessment, their positive attitudes towards e-assessment and their perceived capability in e-assessment (Yan et al., 2018) have played a role in this outcome. This is why they believed that they were literate, knowledgeable, skilled and competent in e-assessment. That most of the EFL teachers believed that they were not aware of e-assessment can be attributed to several factors including lack of exposure to any formal education on e-assessment. Another possible reason for this can be lack of any well-developed and well-organized guideline to operationalize e-assessment. This finding is consistent with the results reported by Zhang et al. (2021) according to which Chinese EFL teachers were literate in e-assessment. Similarly, this finding is in line with the result of the research by Yan and Fan (2020) wherein EFL teachers' e-assessment literacy was found to be relatively high.

Regarding the second research question about *Iranian EFL teachers' perceptions towards e-assessment*, the quantitative results showed that 79.5 percent of EFL teachers showed positive perceptions towards e-assessment. Further, the Iranian EFL teachers' average score on perception towards e-assessment was 2.80 higher than the overall mean on e-assessment, and its components. The qualitative results of the same research question showed that regarding EFL teachers' thoughts about using computer programs in the testing process, teachers thought that computers can be of great importance in the area of testing and assessment; the necessary infrastructure for such a kind of testing is not available in the ministry of education; nowadays, when everything has become online, it's a good idea to use computer programs for testing students; there is a variety of unpredictable questions on computer tests; if the process is controllable, the results will be as same as in paper exams; teachers remember lots of problems from the earlier days; they did it first during the pandemic; and it was fun for them; and as teachers used to make different types of questions on google docs, they had no problem and they took online quizzes and exams several times. On EFL teachers' awareness and knowledge of e-assessment, the results showed that in the beginning, it was not easy to create question types and save them one by one; assessing students' achievement is always a concern to teachers; teachers remember lots of problems from the earlier days; teachers did it first during the pandemic; and as teachers used to make different types of questions on google docs, they had no problem and they took online quizzes and exams several times. Concerning EFL



teachers' points of view about their training regarding their e-assessment needs, some teachers find no difficulty or something needed to be learned; some teachers are YouTube editor and content creator in this field; and teachers have the necessary information to use the program. According to some teachers, for new platforms, they usually need help and training; everybody needs training; it is a new field; working with technology needs special knowledge; sometimes they needed training and the results were totally desirable; and it is possible that you, as a teacher, need to be trained. As far as EFL teachers' experiences in e-assessment are concerned, during the pandemic, they had to test vocabulary, and grammar; actually they have spent most of their time teaching online; for most classes, students were asked to write; at first, communicating online was hard; teachers had a grammar test in a multiple-choice format, it was easier; for listening and speaking courses, teachers always had a problem; it was big blue button platform; and actually it was for the speaking class.

Positive perceptions of EFL teachers towards e-assessment are in line with the findings of Yan et al. (2018). EFL teachers' recognition that the necessary infrastructure for such a kind of testing is not available in the ministry of education is in line with the reports of the study by Abbasi et al. (2020). Some other themes extracted in the present study including teachers' problems with e-assessment at the beginning, teachers' having knowledge to use e-assessment, teachers' need to be educated on e-assessment, and teachers' problems with online

communication, speaking and listening in e-assessment are consistent with the studies by Ameen et al. (2019), and Cheok et al. (2017).

In justifying the findings, it is worth noting that since e-assessment is a relatively new phenomenon, it is natural that EFL teachers are faced with some problems in using it. For the same reason, teachers' perceived need to be trained on e-assessment is reasonable. In the same vein, since before pandemic, online teaching was not very prevalent, it is easily acceptable that some teachers have tried e-assessment for the first time. Last but not least, when something is new, it is inevitable that it requires specific knowledge.

Regarding the third research question about the strengths and weaknesses of Iranian EFL teachers' e-assessment literacy, the advantages of e-assessment were providing a fancier and more attractive place for the exam; students can connect to the language easier; not only can the learners attend the test from home, but they can be constantly assessed even by their peers and themselves; time saving, better assessment; the results of the test are easily available by machine scoring; both the input of the test and the output could be in the form of text, graphics, audio and video; it helps teachers to have assessment even if they are not attending classroom; it also gives students a chance to have a better and more attractive atmosphere of the exam; it allows teachers to save time while checking the assessment; teachers have no roles in the results; students may have more comfort while they are taking parts in exams; online assessment helps teachers run

quizzes in a short time and rate; online assessment offers automatic correction for multiple-choice items and yes-no-type questions; it really saves time and effort; and the students cannot cheat.

Moreover, the weaknesses were absence of teacher's feedback and issues related to security; students are able to cheat while taking part in online exams; students find CALL a chance for cheating with each other; low internet connection or crowded places can reduce students' attention; because students don't try to talk in public, their self-confidence may decrease; the connection was too weak and the platform didn't work; there are challenges that can hinder this seemingly straightforward process; managing an e-assessment session can be less cumbersome; the problem of cheating is related to computer-based assessment; some students could not finish the exam before the end of the time; providing students with computer or mobile phone and internet access; in the beginning of the pandemic it was very hard; at first, communicating online was hard; internet disconnection; more than half had connection problems or didn't have access to the microphone; and teachers had a problem in sharing the tracks and podcasts. The findings are in line with the outcomes of the investigations by Mohsen and Shafeeq (2014), and Toffoli, and Sockett (2015) wherein similar pros and cons were enumerated for e-assessment.

To justify the findings, e-assessment, like any other new system, has its own strengths, weaknesses, opportunities and threats. But what is promising is that the

strengths mentioned by the teachers for e-assessment outnumbered the weaknesses and threats. This is evidence for the point that teachers' had positive perceptions of e-assessment. Moreover, the findings can be justified by arguing that since e-assessment is associated with distance learning, naturally, the absence of physical and face-to-face contact between teacher and students leads to some small or big problems which cannot be neglected. Additionally, although internet, as a main component of e-assessment, is a great benefit, its associated challenges are directly or indirectly the causes of some other problems. This is why e-assessment has some weaknesses and threats in addition to its advantages and opportunities. In addition, the extracted themes for the benefits and disadvantages of e-assessment literacy may have their base in the fact that traditional assessment is more limited than e-assessment. In contrary, e-assessment provides the ground for a more flexible type of evaluation for teachers in understanding learners' competencies (Monib et al., 2020).

The results hold implications for various stakeholders involved in English language teaching. Developers of teacher education materials can create professional development programs aimed at improving the e-assessment literacy of EFL teachers. Such programs can have positive contributions to EFL teachers' professional development by experiencing a more conducive e-assessment. EFL teachers can get useful insights from the findings and increase their awareness of e-assessment via different means. Furthermore, the findings will raise awareness among Iranian EFL teachers regarding the

strengths, weaknesses, opportunities, and threats associated with e-assessment. Last but not least, researchers in the field can take new insights from the results and accordingly, select new topics for their future research.

Based on the findings of this study, it can be inferred that in general, EFL teachers' perceptions of e-assessment were positive. The evidence for this was that the enumerated advantages for e-assessment outnumbered the weaknesses. Moreover, as revealed in the results, it is concluded that e-assessment has remarkable advantages in comparison to traditional assessment for a variety of reasons. However, it is associated also with some weaknesses and threats which should not be neglected by stakeholders in the field. Some opportunities should also be provided so that e-assessment leads to better outcomes.

In a nutshell, given the advancements in technology in today's world and the challenges posed by the COVID-19 across various facets of human life, including education, the findings of this study prompt the researcher to suggest that authorities and stakeholders in the field of TEFL should explore avenues for the integration of e-assessment, particularly within English language teaching. However, this investigation entails a paradigm shift from established practices that have been in place for a considerable duration. It is hoped that the insights gleaned from this study will prove informative for various stakeholders involved in the field.

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