



## Original Research

# Examining the e-assessment literacy of Iranian English as a Foreign Language teachers

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*It is critical for language teachers to be assessment literate. At present, many English as a Foreign Language (EFL) teachers are constantly integrating Internet English lessons into their class programmes simply because they have witnessed the numerous advantages offered by this teaching and learning medium. The present mixed-methods study aimed at exploring Iranian EFL teachers' e-assessment literacy. The participants of the study consisted of 66 EFL instructors who were conveniently selected from different universities. Out of this number, 7 EFL instructors voluntarily participated in the interview. To collect the data, the E-assessment Literacy Questionnaire and a semi-structured interview 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 procedure, MAX Qualitative Data Analysis (MAXQDA) 10 was used to expose the qualitative data to thematic analysis. The quantitative results showed that most of the EFL teachers believed that they were literate in e-assessment and had positive perceptions towards e-assessment. As revealed by the qualitative results, several themes were extracted for EFL teachers' perceptions towards e-assessment. Finally, some advantages and disadvantages were extracted for Iranian EFL teachers' e-assessment literacy. The quantitative results showed that 64.1% of EFL teachers believed that they were literate in e-assessment. Finally, the results showed that the Iranian EFL teachers had the highest mean on competence in e-assessment, while their lowest mean was on being aware of e-assessment. The findings have some implications for EFL teacher education material developers, teachers and researchers.*

**KEYWORDS:** assessment, assessment literacy, digital literacy, e-assessment, EFL teacher



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## 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 analyse 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 who play a key role in 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 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 specialised 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. Therefore, it is critical for teachers to be assessment literate (Popham, 2009; Zhang et al., 2021).

Research has suggested that teachers sometimes devote a huge part of their educational time involved in assessment-related actions (Stiggins, 1991). Regarding the amount of time put in assessing students, it is crucial for teachers to be informed of why they are conducting assessment, how the assessment is implemented and rated, how to interpret the final results, and how to use those results for wise decision making. The extent to which teachers are proficient about assessment has been specified in the literature as *assessment literacy*.

The notion of literacy is in itself a complicated word and therefore, cannot be readily defined in a single sentence, simply because the concept has been used by different researchers and scholars differently based on the context of their study (Abbasi et al., 2020). Moreover, the most common area examined is teacher's assessment literacy highlighting primarily on the measurement fundamentals associated instantly with what happens in classrooms (Yan & Fan, 2020). Assessments are actually actions utilised to decide what students know and are ready to do before, during, and after teaching (Green & Johnson, 2010). As outlined by Pellegrino (2003), first, information is collected and is employed to make inferences about students' skills and knowledge. An example of teacher's action of assessment is a final exam, or a snap quiz. The objective of making judgments about student learning is to improve future results.

From another perspective, assessment literacy can be succinctly defined as the knowledge of the basic rules of proper assessment (Stiggins, 2002). In other words, a person who is literate in assessment actions has the information and expertise to execute, score, and interpret assessments with great quality. Furthermore, the most common domain mentioned is teacher's assessment literacy concentrating mostly on the *measurement basics related directly to what happens in classes* (Popham, 2009). Having concentrated on the classroom, assessment literacy is a substantially relevant issue regarding the learners as well. To believe that assessment literacy is solely directed at teacher's capabilities in gauging a learner's knowledge can result in overlooking the important fact that the learner's state in the process of learning is neglected. If it is accepted that the ultimate target of any teaching should involve the expected change in the habits of the learner due to assessment effect, called washback effect (Davies, 1995), then it could be reasonable to direct at least part of the focus of assessment literacy towards learners.

On the other side, it can be argued that a critical element in assessment is the teacher. Recently, teachers' knowledge in assessment has come into consideration (Fulcher, 2012). The truth is that teachers deal with various assessment procedures in their professional life. For instance, they sometimes need to organise and execute classroom assessment activities by themselves. In many cases, they even set tests without having tested them in advance and usually mark them on their own with no other second marker. Teachers also utilise various forms of summative or formative assessments and develop rating packages for their institution. In many cases, English as a Foreign Language (EFL) teachers are faced with external testing procedures. Teachers also should carry out a consultative process with respect to advising learners on the decision of external proficiency tests they might want to take outside school. All this requires a considerable level of literacy in assessment.

On the other hand, technology has gained a unique position in the realm of language teaching and learning (Alruwais et al., 2018). Indeed, nowadays, it is hardly ever possible to envisage L2 instruction and learning happening divorced from the intervention of technology. In this regard, the first example that the mind conjures up is the Internet. At present, many EFL teachers are constantly integrating Internet English lessons into their class programmes simply because they have witnessed the numerous advantages offered by this teaching and learning medium (Lopez, 2006). The Internet opens an endless supply of academic sources and teaching material for EFL teachers interested in incorporating them into their current programmes as many advocates recommend them. Among them, Warschauer et al. (2011, p. 7) state that '*authenticity, literacy, interaction, vitality and learners' empowerment*' are the main reasons for using the Internet for English teaching and assessment.

Thus far, we have argued the importance of assessment and technology, which keeps the term *e-assessment* in mind. As such, the knowledge of e-assessment, known commonly as *e-assessment literacy*, gains important significance (Alruwais et al., 2018). Considering this, the aim of the present study is to examine assessment literacy among Iranian EFL teachers as conducted in a CALL-mediated environment.

Assessment of learner capabilities in classroom teaching is in fact one of the most vital duties for teachers. Assessment literacy enables teachers to make more informed decisions driven by the goals of teaching and learning. Teachers' inadequate knowledge and practice can reduce the educational quality (Popham, 2009). Gronlund and Linn (1990) pointed out that teachers assessing teaching might first identify their students' needs, view learning and instructional processes, discover student learning difficulties, and make sure they achieve learning success. Current researchers have focused on proper assessment to improve student learning (Ameen et al., 2019; Campbell & Collins, 2007; Wang, 2011). Teachers with assessment skills can realise students' ideas, beliefs, and reasoning to enhance student learning. Therefore, assessment literacy is seen as a necessary professional expertise and ability a teacher should possess.

Despite all the above, many of the EFL teachers know very little about assessment. Regrettably, when most of today's teachers finished their teacher-education courses, there was no prerequisite that they should learn everything about assessment. For such teachers, their only experience of the principles and procedures of assessment might have been nothing but a few classes in their whole education, or probably, a unit in assessment (Stiggins et al., 2006). This meagre amount of attention to assessment can render the whole teaching process ineffective, simply because teachers are not theoretically and practically able to gauge the extent to which their teaching has contributed to students' learning.

A significant number of today's teachers have limited knowledge of assessment. For many teachers, exam is a four-letter word. Regrettably, while most of today's teachers finish their academic education, there is no need for them to learn a lot about assessment. For such teachers, their exposure has been limited to the principles and procedures of assessment which might have included only a few sessions in their classes, or conceivably, a unit to pass in a semester (Stiggins et al., 2006).

Likewise, in recent years, many Iranian teachers have shown that they are limited in their understanding of basic concepts related to educational measurement (Razavipour, 2014). Luckily, in recent years there has been an emergence of greater pre-service demands that provide teacher education candidates with more information concerning educational assessment (Cheok et al., 2017; Razavipour, 2014). It is believed that within the coming years, assessment literacy among the teaching workforce in Iran will be stronger. But for now, this type of assessment training is far from perfect and effective.

The other point worth raising here is e-assessment and the contribution it can potentially have for any education system. All this indicates that knowing how to implement e-assessment is a must in any ELT programme, including those conducted online in Iran. Reviewing the literature, the present researchers could not find a research study about electronic assessment literacy of Iranian EFL teachers. To bridge this gap, the purpose of this study was to examine the extent to which Iranian EFL teachers are CALL literate. To this end, the following research questions were 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?

## 2. THEORETICAL FRAMEWORK

This study is theoretically rooted in the concept of digital literacy. Proposed by Gilster (1997), the concept of digital literacy revolves around the competence to understand and efficiently use information from different digital sources. Gilster (1997) enumerated four main competencies for digital literacy: Knowledge assembly, evaluating information content, internet searching, and hypertext navigation. According to Gilster

(1997), it is necessary for all teachers and students to acquire the required skills to utilise the web appropriately and critically. Based on this notion, Eshet-Alkalai (2004) proposed that digital literacy transcends software usage, encompassing a set of complex cognitive, motor, sociological, and emotional abilities. This view provided a groundwork for a comprehensive framework, as proposed by Aviram and Eshet-Alkalai (2006), composed of three components: technical-procedural, cognitive, and emotional-social skills. Technical-procedural skills include basic computing competencies required for navigating modern technological interfaces, while cognitive skills involve pedagogical aspects such as comprehension, critical reflection, and creativity. Emotional-social skills address the dimension of social media within contemporary computing contexts. Eshet-Alkalai and Chajut (2009) proposed a six-skill model as the theoretical framework of digital literacy which consists of the following skills: (i) photo-visual literacy (the ability to work effectively in digital contexts); (ii) reproduction literacy (the ability to produce authentic texts by reproducing and manipulating previous digital texts); (iii) branching literacy (the ability to construct knowledge by a dynamic navigation through knowledge areas); (iv) information literacy (the ability to critically use information); (v) socioemotional literacy (the ability to communicate efficiently in online communication networks); (vi) real-time thinking skill (the ability to manipulate and assess large bulks of information in real time).

Moreover, e-assessment has the capacity to increase efficiency and to decrease costs (Ahmadi et al., 2021; Connolly et al., 2007). Boyle and Hutchison (2005) indicate that e-assessment is much more than just an alternative way of testing. Tests over the internet, because most are objective, can make important contributions to classroom assessment as well. Besides, lower costs, flexibility, instant feedback, improved reliability of the computer scoring (Boyle & Hutchison, 2005), the potential for structured and non-structured environments and developments in artificial intelligence make e-assessment a great candidate for most assessment. Candidates have felt that e-assessment is easier and user friendly (Boyle & Hutchison, 2005), and e-assessment has a lot to offer in terms of improving student experiences of learning (Jordan, 2013; Yan & Fan, 2020).

## 3. MATERIAL AND METHODS

### 3.1. Participants

For this study, 66 EFL instructors from various universities were invited to participate. Of these, 60.6% held a PhD and 39.4% held an MA in Teaching English as a Foreign Language (TEFL). The participants were selected through convenience sampling, based on their availability in Telegram and WhatsApp groups during the COVID-19 pandemic (Dornyei, 2007). The results of 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

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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 had been working 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 for about 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 ethics, first of all, the participants were made aware of the objective of the study. Then, they were made sure the anonymity and confidentiality of their personal information would be observed.

### 3.2. Instruments

#### 3.2.1. E-assessment literacy questionnaire

The researcher-compiled 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 of 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. The reliability of the questionnaire, as measured by Cronbach's Alpha, was calculated to be 0.89. 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 administered wherein the participants were invited to reflect upon their perceptions and experiences of e-assessment literacy. First, a thorough investigation was carried out to check knowledge of 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 included as 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 analysed to design the interview checklist. The experts specialised 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 in. 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 analyse 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 subject the qualitative data to thematic analysis.

## 4. STUDY AND RESULTS

### 4.1. Results of the quantitative phase

To answer the first research question concerning Iranian EFL teachers' literacy in e-assessment, first, the frequencies and percentages for the EFL teachers' overall e-assessment literacy were calculated. Table 1 shows the frequencies and percentages for the EFL teachers' overall e-assessment literacy. The results showed that 64.1% (9.7% strongly agree + 54.4% agree) believed that they were literate in e-assessment. On the other hand, 29.5% 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*

AGREEMENT LEVEL	FREQUENCY	PERCENTGE
Strongly disagree	78	6.5%
Disagree	354	29.5%
Agree	654	54.4%
Strongly agree	116	9.7%
Total	1202*	100%

\*Note: The e-assessment questionnaire had 19 items which were filled and returned by 66 EFL teachers. The overall number of responses was  $19 \times 66 = 1254$ . The sum of frequencies was less than 1254, since some of the teachers left some of the items unanswered.

Then, the frequencies and percentages for the teachers' awareness of e-assessment literacy were calculated. Table 2 shows the frequencies and percentages for the teachers' awareness of e-assessment literacy. The results showed that most of

the teachers, i.e. 51.5% (11.1% strongly disagree + 39.4% disagree), believed that they were not aware of e-assessment. On the other hand, 40.4% agreed, and another 9.1% strongly agreed with the idea that they were aware of e-assessment.

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

AGREEMENT LEVEL	FREQUENCY	PERCENTGE
Strongly disagree	22	11.1%
Disagree	78	39.4%
Agree	80	40.4%
Strongly agree	18	9.1%
Total	198	100%

Next, the frequencies and percentages for the EFL teachers' knowledge of e-assessment literacy were calculated. Table 3 shows the frequencies and percentages for the teachers' knowledge of e-assessment literacy. The results showed that majority

of the teachers, i.e. 66.6% (9.8% strongly agree + 56.8% agree), believed that they possessed knowledge on e-assessment. On the other hand, 26.5% 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*

AGREEMENT LEVEL	FREQUENCY	PERCENTGE
Strongly disagree	18	6.9%
Disagree	70	26.5%
Agree	150	56.8%
Strongly agree	26	9.8%
Total	264	100%

In the next stage, the frequencies and percentages for the EFL teachers' skills in e-assessment literacy were calculated. Table 4 shows the frequencies and percentages for the EFL teachers' skills in e-assessment literacy. The results showed that

majority of the EFL teachers, i.e. 56% (6% strongly agree + 50% agree), believed that they were skilled in e-assessment. On the other hand, 37.9% 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*

AGREEMENT LEVEL	FREQUENCY	PERCENTGE
Strongly disagree	16	6.1%
Disagree	100	37.9%
Agree	132	50.0%
Strongly agree	16	6.0%
Total	264	100%

Afterwards, the frequencies and percentages for the teachers' competence in e-assessment literacy were calculated. Table 5 shows the frequencies and percentages for the teachers' competence in e-assessment literacy. The results showed that most

of the teachers, i.e. 55.1% (9.4% strongly agree + 55.7% agree), believed that they had competence in e-assessment. On the other hand, 30.2% 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*

AGREEMENT LEVEL	FREQUENCY	PERCENTGE
Strongly disagree	10	4.7%
Disagree	64	30.2%
Agree	118	55.7%
Strongly agree	20	9.4%
Total	212	100%

Finally, descriptive statistics were performed for the overall e-assessment questionnaire and its individual 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 showed that the Iranian EFL teachers 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*

COMPONENTS OF E-ASSESSMENT	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 answer the second research question concerning Iranian EFL teachers' perceptions towards e-assessment quantitatively, first, the frequencies and percentages for the EFL teachers' perception of e-assessment literacy were calculated. Table 7 shows the frequencies and percentages for the EFL teachers'

perception of e-assessment literacy. Most of the teachers, i.e. 79.5% (13.6% strongly agree + 65.9% agree), had positive perceptions of e-assessment. On the other hand, 15.9% disagreed, and another 4.6% strongly disagreed with the statement, indicating they did not hold negative perceptions toward e-assessment.

Table 7

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

AGREEMENT LEVEL	FREQUENCY	PERCENTGE
Strongly disagree	12	4.5%
Disagree	42	15.9%
Agree	174	65.9%
Strongly agree	36	13.6%
Total	264	100%

Next, the descriptive statistics was calculated for perception towards e-assessment. Table 8 below 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	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION	ARIANCE
Perception	66	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. According to the results, with regard to EFL teachers' thoughts about using computer programmes in the testing process, although teachers thought that computers can play a significant role in the area of testing and assessment, they believed that the necessary infrastructure for such a kind of testing is not available in the ministry of education. To them, nowadays, when everything has become online, it is a good idea to use computer programmes for testing students. Additionally, teachers perceived that there is a variety of unpredictable questions on computer tests. To them, if the process is controllable, the results will be as same as in paper exams. Teachers remember lots of problems from the earlier days when they did it first during the pandemic, and it was fun for them. Finally, 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.

Regarding EFL teachers' knowledge and awareness of e-assessment, in the beginning, it was not easy for them to create question types and save them one by one. Assessing students'

achievements is also always a concern to teachers. Concerning EFL teachers' points of view about their training regarding their e-assessment needs, some teachers found no difficulty and did not need anything to be learned. Some teachers were YouTube editors and content creators in this field, and some teachers had the necessary information to use the programme. According to some teachers, for new platforms, they usually needed help and training since it is a new field. Some teachers believed that working with technology needs special knowledge. Therefore, they needed training, and the results were totally desirable.

On EFL teachers' experience in e-assessment, during the pandemic, they had to test vocabulary and grammar. Actually, they have spent most of their time teaching online. For some teachers, communicating online was hard. Teachers had a grammar test in online multiple-choice format. However, for listening and speaking courses, they always had problem with big blue button platform.

To answer the third research question concerning the strengths and weaknesses of Iranian EFL teachers' e-assessment literacy qualitatively, the interview data were subjected to the thematic analysis by MAXQDA. According to the results, the advantages of e-assessment were providing a fancier and more attractive place for the exam, easier connection of students to

*'Regarding EFL teachers' knowledge and awareness of e-assessment, in the beginning, it was not easy for them to create question types and save them one by one. Further, assessing students' achievement is always a concern to teachers. Concerning EFL teachers' points of view about their training regarding their e-assessment needs, some teachers found no difficulty and did not need anything to be learned. Some teachers were YouTube editors and content creators in this field, and some teachers had the necessary information to use the programme'*

the language, students' attending the test from home, opportunity for constant and peer assessment, time saving, better assessment, and availability of the results by machine scoring. Moreover, the following advantages were revealed: availability of both the input of the test and the output in the form of text, graphics, audio and video, distant assessment, provision of a better and more attractive atmosphere of the exam, objectivity of the results, and students' comfort while they are taking parts in exams. Last but not least, online assessment helps teachers run quizzes in a short time and rate, it offers automatic correction for multiple-choice items and yes-no-type questions, and the students cannot cheat. Moreover, the weaknesses were absence of teacher's feedback and issues related to security, students' cheating, low internet connection, students' low self-confidence, challenges of managing an e-assessment session, shortage of time, and lack of facilities.

## 5. DISCUSSION

This study sought to answer three research questions. Concerning the first research question relating to Iranian EFL teachers' literacy in e-assessment, the results showed that 64.1% of EFL teachers believed that they were literate in e-assessment. However, the results also showed that 51.5% of EFL teachers believed that they were not aware of e-assessment. The results also showed that 66.6% of teachers believed that they possessed knowledge of e-assessment. Additionally, the results showed that 56% of teachers believed that they were skilled in e-assessment. Further, the results showed that 55.1% of teachers believed that they had competence in e-assessment. Also, the average score of teachers on overall e-assessment was 2.67 which was a high mean. Finally, the results showed that the Iranian EFL teachers had the highest mean on competence in e-assessment, while their lowest mean was on being aware 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. Additionally, Covid-19 pandemic called for all teachers' enhancement of their e-assessment literacy regardless of their teaching experience. Therefore, EFL teachers adapted to new conditions through working on their own e-assessment literacy. In fact, face-to-face teaching and consequently assessment were out of work during pandemic. Accordingly, EFL learners were encouraged to enhance their e-assessment competence. This has led to higher levels of e-assessment literacy among them. The fact that most EFL teachers believed they were unaware of e-assessment can be attributed to several factors, including a lack of exposure to formal education on the subject. That is, educational system experienced a shift to e-learning and e-assessment overnight. Therefore, no formal training was received by them on e-assessment. Another possible reason for this can be the lack of any well-developed and well-organised guideline to operationalise e-assessment. Besides, usually Iranian teachers do not follow self-study and self-directed programmes on enhancement of their own e-assessment literacy.

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.

Concerning the second research question about Iranian EFL teachers' perceptions of e-assessment, the quantitative results showed that 79.5% of EFL teachers had 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 findings also backed the quantitative results. On EFL teachers' knowledge and awareness of e-assessment, the findings confirmed that teachers were not knowledgeable in and aware of e-assessment and experienced several problems and challenges in this regard. Concerning EFL teachers' points of view about their training regarding their e-assessment needs, some teachers perceived no need to training and some ones needed to be trained. As far as EFL teachers' experiences in e-assessment are concerned, e-assessment of vocabulary and grammar was easier than that of speaking and listening skills.

Positive perceptions of EFL teachers towards e-assessment are in line with the findings of Yan et al. (2018). Teachers' recognition that the necessary infrastructure for this 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,



*'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'*

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, as unpacked by the findings, the advantages of e-assessment were providing a fancier and more attractive place for the exam, easier connection of students to the language, students' attending the test from home, opportunity for constant and peer assessment, time saving, better assessment, and availability of the results by machine scoring. Moreover, the following advantages were revealed: availability of both the input of the test and the output in the form of text, graphics, audio and video, distant assessment, provision of a better and more attractive atmosphere of the exam, objectivity of the results, and students' comfort while they are taking parts in exams. Finally, online assessment helps teachers run quizzes in a short time and rate, it offers automatic correction for multiple-choice items and yes-no-type questions, and the students cannot cheat. This is while the weaknesses were absence of teacher's feedback and issues related to security, students' cheating, low internet connection, students' low self-confidence, challenges of managing an e-assessment session, shortage of time, and lack of facilities.

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). Bottom line is that some advantages and disadvantages are inevitably attached to e-assessment. Because it is a relatively new phenomenon in the context of Iran, disadvantages are not unexpected. However, some appropriate measures are needed in terms of digital pedagogy competence enhancement of both teachers and learners, provision of facilities and infrastructures, time management, etc. to reduce the disadvantages.

## 6. CONCLUSION

Based on the results of this study, it can be concluded 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. Iranian EFL teachers should be helped in terms of enhancement of their awareness of e-assessment. In this way, the challenges and problems confronted by them in implementing e-assessment could be solved, at least partially.

The fact that EFL learners' attitude towards e-assessment was positive is promising and convincing enough to conclude that the ground is ready in Iran as an EFL setting for the arrival of e-assessment in teaching different English skills. Moreover, appropriate measures should be taken to make EFL teachers more literate in implementing e-assessment for speaking and listening skills.

Overall, given the technological advancements in today's world and the constraints imposed by the COVID-19 pandemic on various aspects of human life, including education, the findings of this study lead the researcher to conclude that relevant authorities and stakeholders in the field of TEFL should strive to facilitate the adoption of e-assessment, particularly within the domain of English language teaching. However, this is not an easy task and needs shift of some paradigms which have been established for a long time. It is hoped that the results of this study will be informative for different groups of stakeholders.

The findings have some implications for different groups of English language teaching stakeholders. Teacher education material developers or curriculum developers can develop professional development courses to enhance EFL teachers' e-assessment literacy. However, in the first step, teacher education policy makers should make the ground ready for planning and operationalising training programmes or even fixed courses on e-assessment in teacher education programmes. Such programmes

can make 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. In addition, the results will make Iranian EFL teachers aware of the strengths, weaknesses, opportunities and threats of e-assessment. Finally, researchers in the field can take new insights from the results and accordingly, select new topics for their future research.

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