Digital Literacy Skills among Iranian EFL Teachers and Students

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Abstract

Nowadays, digital literacy and the use of digital resources and communication tools in academic contexts have been promoted by the rise of digital civilization in the 21st-century. Thus, this research aimed to study the digital literacy of Iranian EFL teachers and students to find out any significant difference between them. One hundred and fifty Iranian EFL teachers, and 175 Iranian EFL students were invited to participate in this study. A 181-item standardized measure developed and validated by Khlaisang and Koraneekij (2019) was used to assess individuals' three crucial 21st-century digital skills namely Information Literacy (IL), Media Literacy (ML), and Information Communication Technology Literacy (ICTL). To find that whether this difference is significant or not, a t-test was run. The results highlight that Iranian EFL teachers' scores were higher than students in all the three constructs of IL, ML, and ICTL, and ICTL had the highest mean score among all. The data regarding teachers' and students' digital literacy can be a reference for educational planners and decision-makers to identify digital skills which should be considered more seriously at the university level especially in these Coronavirus days.

Keywords: Digital literacy skills; EFL teachers; Information literacy; Information and communication technology literacy; Media literacy

1. Introduction

The recent decades have seen the rise of a global movement that leads individuals toward a modern learning paradigm (Scott, 2015). This tremendously rapid development has led to new methods of learning that are extensions of current theories of learning and have enabled the creation of a learner-centered and personalized way of learning (Çakmak, 2019). Accordingly, there is a strong agreement that modern learning methods need to accommodate the characteristics of today's students, get more and more inclusive, and discuss multidisciplinary issues of the twenty-first century (Carneiro, 2007). Hazen (2010), however, notes that if teachers and students are not qualified to apply these modern learning methods in a realistic

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context, access to technical resources is not useful. On the other hand, the change in instruction has made digital literacy increasingly important.

Digital literacy or digital competency is defined as a combination of concepts, including information literacy (IL), media literacy (ML), and information and communication technology (ICT) literacy (Khlaisang & Koraneekij, 2019). This is in line with the definition of digital literacy provided by the Partnership for 21st Century Skills organization in 2007 which has become widely accepted as one of the development frameworks in the 21st century. In today's world, the world of 21st, both teachers and learners should apply and adjust their skills and knowledge creatively while learning and working (Khlaisang & Koraneekij, 2019) which is the reason that IL, ML, and ICT literacy skills play a crucial role in today's education as well (Moto, Ratanaolarn, Tuntiwongwanich & Pimdee, 2017).

Furthermore, according to Adu and Ngibe (2014) the pedagogical changes and newly developed pedagogical models, such as flipped classrooms, blended learning, collaborative problem solving, interdisciplinary projects, immersive authentic simulations, and digital teaching platforms, affect teachers' pedagogical approaches in the implementation of the curriculum – particularly in cases where inclusion of digital literacy requires digital competence skills. Besides, students are continuously receiving data, interacting, displaying media, and using a variety of technology-based resources in the early 21st century. In order to correctly teach individuals to evaluate, interpret, and effectively use technology, educators have to support technology, utilize technology in their classrooms, and teach proper use of technology to accomplish tasks (Hung, Lee, & Lim; 2012; Kaware & Sain, 2015; Kelly, 2013; Liu & Tee, 2014). Therefore, Digital Literacy in English is one of the main critically important skills for both students' and teachers' development (Meurant, 2009).

Accordingly, this research aimed to study the digital literacy of Iranian EFL teachers and students to find out any significant difference between them. The results of the current study can help teachers regarding the use of technology resources to establish better technology implementation strategies in EFL classrooms. It also assesses both groups to be aware of the digital literacy needs and barriers in the learning environment. In addition, it gives insight into the difficulties and demands of the digital literacy skills of Iranian EFL teachers and students. Policymakers and university managers also can benefit from the results of this study which provide them valuable information to develop digital literacy training courses for teachers.

2. Review of the Literature

Recently, digital technology has become an integrated part of every educational field, including language learning. The development of digital technology requires unique skills that will help students succeed in the competition of the 21st Century and the digital age. The way teachers convey digital literacy in the classroom is influenced by their grasp of the subject. An efficient way of teaching English skills was to integrate technology into digital literacy. Besides, for university students, as claimed by Fieldhouse and Nicholas (2008), being digitally literate allows them to have the skills to think critically on how to determine the information received, and the skills to contextualize, analyze, and synthesize any information found online. Thus, in

mastering digital skills, both teachers and students must be the same as one of the institutions that play an important role in improving the digital literacy of students (Kurnia & Astuti, 2017).

Digital literacy, a popular term today, is recognized as the competency in interpreting and using information from a wide range of sources in different formats which is interpreted via computers (Gilster, 1997). A digitally literate person, according to Wilhelm (2004), should be able to access, manage, integrate, assess, and produce information. Accordingly, Cornell University (2009) described this term as the skill of using information technology and the Internet to discover, analyze, use, distribute, and create content which is in line with the American Library Association's (2013) definition of information literacy as the ability to locate, evaluate, produce, and convey information using information and communication technologies, involving both cognitive and technical abilities.

Fatemi Jahromi and Salimi(2013) investigated the present computers-related outlooks and abilities of Iranian high school language teachers and students and compared the attitudes of language teachers and students about CALL, cultural perspectives of the importance of computers in education, computer competency, and computer access. The findings revealed that the majority of the respondents have positive viewpoints towards CALL and find it relevant to the cultural context of Iran. Language teachers and students have daily access to computers mostly at home. The study further shows teachers score considerably higher, in comparison to their students, on the CALL attitude and computer competence ratings.

Besides, Dashtestani (2014) performed a mixed-method study to learn about the computer literacy levels of 263 Iranian EFL teachers. The results revealed that the lack of computer literacy training in teacher education programs, lack of funding from EFL authorities to improve computer literacy for EFL teachers, and lack of time to improve computer literacy for teachers are the key important factors that hinder the development of the computer literacy of EFL teachers. Besides, it has been shown that EFL teachers have adopted optimistic attitudes to develop their computer literacy.

Cote and Milliner (2016) surveyed first-year College of Tourism and Hospitality (CTH) students at their private university in Tokyo and reported their responses about digital competence self-assessment, and a 10-item digital literacy test. The authors of this study discovered that freshmen at their Japanese university believe they have a very low level of digital literacy. These poor ratings were reinforced by poor performance on the digital literacy part of the examination. Accordingly, Soleimani, Rohani Ravari, and Jafarigohar (2017) explored the computer information and multimedia literacy of 255 Iranian EFL teachers using a five-point Likert scale questionnaire. The findings revealed that the level of EFL teachers' multimedia and information literacy ranged from low to moderate which necessitates improving teachers' training courses and preparing them for implementing technologies in real language teaching contexts.

Komlayut and Srivatanaku (2017) measured the different digital literacy skills of the lecturers and the graduate-level students using a self-assessment questionnaire. Results from the evaluation of digital literacy skills among senior universities suggested that, compared to other skills, students have problems with branching digital skills and photo-visual digital skills for some of the common software programs. Correspondingly, Perdana, Yani, Jumadi, and Rosana (2019) also investigated students' digital literacy skills of students in Senior High

School. The findings of this survey revealed that all students' digital literacy abilities were at a poor level. Besides, there was a significant difference in students' digital literacy skills based on educational level.

Eryansyah, Erlina, Fiftinova, and Nurweni (2019) evaluated EFL students' current digital knowledge and skills, their attitude toward the use of ICT in language learning, and their needs to meet the demand of the 21st-century skills. In short, what students need to boost their digital literacy in ICT is access to public computers with internet connectivity at any time, the need for ICT training for both teachers and students, and the continuous integration of ICT in language learning.

Nugroho and Mutiaraningrum (2020) worked on 15 Indonesian EFL teachers' beliefs and digital learning of English in Indonesia. The findings demonstrated that these EFL teachers were well informed of the importance and goal of teaching English, but appeared hesitant and lacked preparation in their teaching practices. The semi-structured interview further depicted that their unconfident and lack of preparation was not only a result of inadequate training but also of limited resources and digital facilitation.

Dashtestani and Hojatpanah (2020) conducted a mixed-method study that explored junior high school teachers', students', and ministry directors' perspectives on the students' digital literacy level and issues are pertaining to it. Based on the findings, significant differences between the teachers' and students' perceptions regarding junior high school students' levels of digital literacy were identified in the questionnaire results. In the interviews, both the teachers and students claimed that the students had an acceptable level of digital literacy. The interview with the presidents of the Ministry of Education showed that they did not agree on the issues associated with the digital literacy of junior high school students and that the Ministry did not have specific plans to support the level of digital literacy of students.

Despite the ever-increasing number of studies related to digital literacy in Iran, there is a gap in the literature about digital literacy with a focus on the differences between Iranian EFL teachers' and EFL students' knowledge of Digital literacy. Thus, the researchers in this study aim to step forward to compare Iranian EFL teachers' and students' knowledge of digital literacy to identify any major gaps between them and to offer some suggestions to encourage these skills in both groups. Therefore, the present study addresses the following research questions.

Q1: Is there any significant difference between Iranian EFL teachers' and EFL students' knowledge of Digital Literacy?

Q2: Is there any significant difference between Iranian EFL teachers' and EFL students' knowledge of Information Literacy (IL)?

Q3: Is there any significant difference between Iranian EFL teachers' and EFL students' knowledge of Media Literacy (ML)?

Q4: Is there any significant difference between Iranian EFL teachers' and EFL students' knowledge of Information and Communication Technology Literacy (ICTL)?

3. Method

3.1. Participants and Setting

According to Abramowitz, and Stegun (1965), Cohen (1988), and Soper (2020), the minimum required total sample size and per-group sample size for a two-tailed t-test study, given the probability level of 0.05, the effect size (Cohen's *d*) of 0.5, and the power level of 0.8, would be 128 and 64, respectively. However, to enrich the finding of the present study, 150 (Male=62, Female=88; Mean$_{age}$=30.23, SD=6.58) Iranian EFL teachers, working at different language institutes and universities, and 175 (Male=76, Female=99; Mean$_{age}$=20.46, SD=3.80) Iranian EFL students from different fields of study, different years of experience, different age groups, and different levels of education were invited to participate in this study. All of the participants speak Persian as their mother tongue. The questionnaire was spread using both paper-pencil format and Google Form through social Networks such as WhatsApp and Telegram. The study applied a causal-comparative research design using a convenience sampling procedure for gathering the data.

3.2. Instrumentation

This study used a 181-item standardized measure developed and validated by Khlaisang and Koraneekij (2019) to assess individuals' three crucial 21st-century digital skills (IL including 49 items, ML including 63 items, and ICTL including 69 items). The validity of the questionnaire was checked through confirmatory factor analysis, and the reliability of the test with Cronbach's alpha coefficient was shown to be highly acceptable (Khlaisang & Koraneekij, 2019). In this model, IL refers to the individual's ability to identify the needs for information, the ability to access, manage, and apply information, and the ability to have ethics in using information. ML refers to accessing, analyzing, evaluating, and creating media and accessing media from various resources, and using the media creatively. ICTL means accessing, communicating, managing, integrating, evaluating, and using the media creatively. All the items are measured on a five-point Likert scale from (*strongly disagree*) to (*strongly agree*).

3.3. Procedures

The present study was based on a sample of 150 Iranian English language teachers and 175 English language students. The data was gathered through both online data collections via Google Form, and paper-pencil format starting from December 2020. The online version of the questionnaire was sent to the teachers that their email addresses are accessible. The researcher explained the study's goals for the participants and asked them to participate in the study voluntarily. The items were measured on a five-point Likert scale. Finally, the data were analyzed and interpreted using SPSS 24 software.

4. Results and Discussion

The Kolmogorov-Smirnov test was used to ensure that the data distribution was normal. The obtained sig value for all three variables was higher than .05, therefore, it can safely be concluded that the data is normally distributed across the variables. Table 1 presents descriptive statistics of sub-scales of the questionnaire, including the mean, standard deviation, maximum and minimum scores. The results also showed that the utilized questionnaire gained acceptable

indexes of Cronbach alpha: Information Literacy (IL)= .88, Media Literacy (ML)=.93, and Information Communication and Technology Literacy (ICTL) = .82.

To find whether Digital Literacy and its sub-constructs differ significantly between teachers and learners, an independent-samples t-test was performed. As Table 1 shows, the mean score of teachers on the DL scale (594.06), IL scale (160.09), ML scale (207.84), and ICTL scale (225.81) is higher than those of students.

Table 1
The descriptive statistics of overall Digital Literacy and its sub-constructs

	participant	N	Mean	Std. Deviation	Std. Error Mean
DL	teacher	150	594.06	33.59	7.50
	student	175	561.25	46.94	8.06
IL	teacher	150	160.09	13.25	2.18
	student	175	151.24	11.87	2.38
ML	teacher	150	207.84	13.55	2.73
	student	175	195.94	12.06	2.78
ICTL	teacher	150	225.81	18.14	3.12
	student	175	213.75	13.82	3.29

To answer all the four research questions and to find out whether the differences are significant or not, a t-test was run. As the results show (Table 2), there is a significant difference in DL and all its sub-constructs between teachers and students groups. Besides, Figure 1 illustrates the differences between teachers' and students' views for the sub-scales of the Digital Literacy scale.
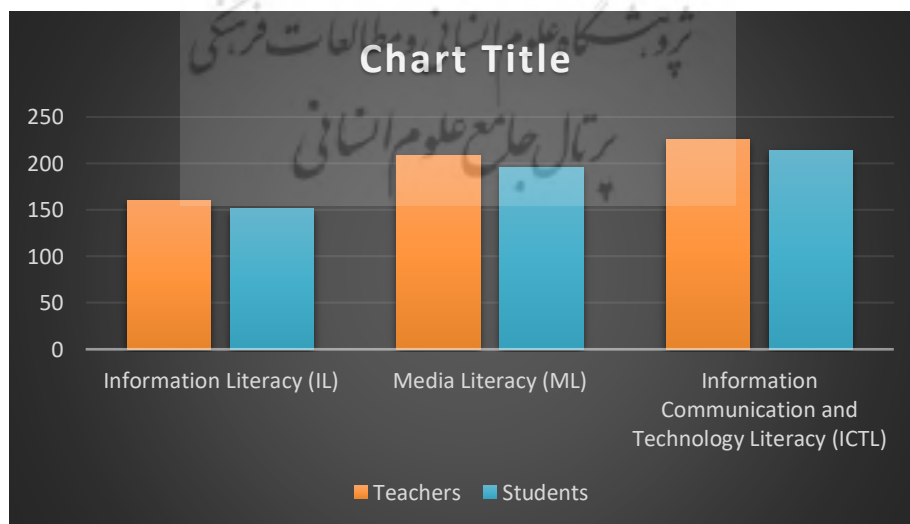

Figure 1. The differences between teachers' and students' view for the sub-scales of the Digital Literacy scale

Table 2
The results of the t-test for Digital Literacy and its sub-constructs

	Levene's Test for			t-test for Equality of Means				
	Equality of Variances	F	sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
DL	Equal variances assumed	.10	.74	2.942	323	.00	32.81	11.15
	Equal variances not assumed			2.980	322.95	.00	32.81	11.01
IL	Equal variances assumed	.90	.34	2.70	327	.007	8.85	3.27
	Equal variances not assumed			2.74	326.99	.006	8.85	3.23
ML	Equal variances assumed	.02	.88	3.02	326	.003	11.90	3.93
	Equal variances not assumed			3.05	324.78	.002	11.90	3.90
ICTL	Equal variances assumed	.09	.75	2.62	324	.00	12.05	4.59
	Equal variances not assumed			2.65	323.62	.00	12.05	4.54

The results of the study, using a t-test, showed that Digital Literacy scores among Iranian EFL teachers and students significantly differ. The results highlight that Iranian EFL teachers' scores are higher than students'. The results of this study are in line with the results reported by Eryanyah, Petrus, Indrawti, and Ernalida (2020) which investigated pre-service EFL teachers' digital literacy skills and factors affecting them in developing their digital literacy skills. They found out that the majority of the pre-service EFL teachers involved in this study were in excellent levels of their digital literacy skills. This agrees with the study conducted by Al Seghayer (2020) who investigated the adequacy of EFL learners' abilities in digital literacy skills. He claimed that the participants were ill-equipped to efficiently handle the L2 digital literacy skills. Likewise, the results are also consistent with Fatemi Jahromi and Salimi (2013) which revealed that Iranian high school language teachers have moderate computer competence, while students have limited competence, and teachers rank significantly higher on the Computer Assisted Language Learning (CALL) attitude and computer competence scales. These findings are also in full agreement with those of other studies such as Cote and Milliner (2016), Nugroho and Mutiaraningrum (2020), and Perdana et al. (2019). However, the findings contradict Dashtestani (2014) who carried out research to unravel the current challenges and difficulties in enabling EFL teachers to acquire CALL materials development and implementation skills. He demonstrated that EFL teachers lacked the fundamental abilities needed to create and use CALL materials. Moreover, in contrast with the findings of this study Al Khateeb (2017), who measured in-service English language teachers' digital competence, indicated that the majority of teachers are basic users in CALL areas.

According to the results of the current study, IL scores among Iranian EFL teachers and students differ significantly. The results indicate that Iranian EFL teachers' IL ratings are higher than Iranian EFL students. This result confirms a previous study conducted by Eksi (2012) who determined IL self-efficacy and computer literacy self-efficacy scales of 47 English language instructors and 75 students who were enrolled in a one-year intensive language preparation program at Gazi University's School of Foreign Languages. The results showed the instructors have quite high self-efficacy scores in both areas. Similarly, Tang (2018) reported freshmen students in Hong Kong have limited knowledge of IL and have difficulties in all IL areas. Nevertheless, Soleimani et al. (2017) revealed that the IL of Iranian EFL teachers ranged from low to moderate which necessitates improving teachers' training courses and preparing them for implementing technologies in real language teaching contexts.

Following t-test results, ML scores among Iranian EFL teachers and students were shown to be significantly different. The study's results illustrated that Iranian EFL teachers are more skilled than Iranian EFL students in terms of ML. The results of this study are in harmony with Lebid, Degtyarev, and Polyakova (2020) who reported students ML as rather low–average and below-average level. However, the study's findings are in contrast with Soleimani et al., (2017). According to their findings, EFL instructors' multimedia and information literacy levels ranging from poor to moderate, necessitating the improvement of teacher training courses and equipping them to apply technologies in real-world language teaching situations.

Finally, the current study illustrated that ICTL scores among Iranian EFL teachers and students differ significantly. The results reveal that Iranian EFL teachers are more qualified than Iranian EFL students, which is in line with the finding of Sarfo, Amankwah, Oti-Agyen, and Yidana (2016) that showed the majority of the teachers have access to ICTL tools such as computers, mobile phones, the Internet and personal digital assistants. Additionally, the study found that most of the teachers have a high degree of competency in ICTL applications such as word processing, the Internet, and e-mail. Also, Alghamdi (2017) concluded that a large number of the EFL teachers were able to use ICTL in many different forms in an EFL teaching context. However, Al Khateeb (2017) stated that the majority of English language teachers in schools in Saudi Arabia are basic users in using CALL materials.

5. Conclusion

The study's findings revealed that the levels of digital literacy among Iranian EFL teachers and students differ significantly. The results indicated that Iranian EFL teachers had greater scores than students. Moreover, among IL, ML, and ICTL, teachers' scores were higher than students', and ICTL had the highest mean score of all. It is revealed that teachers are overwhelmingly supportive of digital literacy and are incorporating these skills into learning outcomes for their courses. It can be concluded that the efforts and investments in technology application and digital literacy training will be cost-effective and fruitful in the future.

What is also worth noticing is the challenges that existed even before the COVID-19 pandemic. For a developing country like Iran, where online education was not adopted in most educational institutes before the pandemic, lack of management and clear plans of implementation made online education a challenge for both students and lecturers. Making the students only passive recipients of the learning process has affected the whole educational

organization, leading to worse coordination between the students and the teachers, a lower motivation level, and an increase in the social challenges faced by the students (Hijazi & AlNatour, 2021).

There is a tremendous necessity to introduce digital literacy and CALL-related issues into university curricula, assessment tests, and classroom practice. Hence, more CALL equipment should be made available to the students by the various universities (Ekşi, 2012). Accordingly, if technologies become more accessible to students, they will be more willing to learn how to use such technologies for EFL learning and enhance their levels of digital literacy. Training is another perceived strategy that can facilitate students' digital level promotion. Training is needed both for teachers and students if technology is supposed to be included in EFL courses for learners (Ekşi, 2012). It is hoped that the instructors would assume a new teacher role that is more compatible with the demands of the 21st century (Ekşi, 2012). Therefore, support in embedding digital literacy skills into a formal university curriculum is essential. Moreover, digital-related competencies should be promoted to teachers as part of continuous professional development (CPD). Such competencies also need to be incorporated into different teacher education programs (Al Khateeb, 2017). Online Courses are just one way to support individuals' digital competence and encourage their unlimited participation on the web. Teachers and teacher educators, as well as learners, should have access to a variety of technological resources, as well as adequate training, knowledge, and skills from the corresponding departments. In addition, in their strategic plans and policies, academic institutions must promote the positive role of transformation, creativity, innovation, and sharing of resources (Al Khateeb, 2017).

The data regarding students' digital literacy can be a reference for educational planners and decision-makers in order to identify digital skills which should be considered more seriously at the university students' level. It is advised that educational directors hold some meetings with teachers and students, and conduct small and large-scale research projects on students' digital literacy levels, and suggest strategies to improve the status quo. The researcher hopes that the study will spark more research and provides better data for future investigations and the implementation of L2 Digital Literacy skills to help EFL learners perform more successfully using digital skills. Accordingly, similar studies can be done considering teachers' and students' age, field of study, and experience. Other research might look at the main reasons why students' digital literacy skills are indeed insufficient. More research should also be conducted on the specific barriers and challenges of technology usage in EFL classes to discover elements that may contribute to students' lack of digital literacy and limitations to technology use in universities so that EFL specialists and decision-makers are aware of the issues. Future researchers will be able to determine EFL teachers' levels of digital literacy skills by monitoring them in authentic environments. Moreover, future studies after the COVID-19 pandemic can examine students' satisfaction toward using an online approach in learning and teaching processes rather than using conventional approaches.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

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