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# Digital literacy for Iranian EAP instructors: Challenges, opportunities, and current practices

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**ABSTRACT**
With the emergence of computer-assisted language learning (CALL), digital literacy of students and teachers has become the focus of many studies. However, EAP instruction has been a neglected field in that very limited studies have been carried out in this realm. This study uncovered the digital literacy levels of Iranian EAP instructors and identified the barriers restricting the promotion of EAP instructors' digital literacy. A total of 79 Iranian EAP instructors participated in this study. The findings suggested that Iranian EAP instructors perceived to have an intermediate level of digital literacy and use a limited range of computer tools and applications. However, the instructors were aware that their level of digital literacy for teaching purposes might be lower than their level of digital literacy for common and personal purposes. The study also revealed that Iranian EAP instructor do not decide to foster their digital literacy due to some factors such as lack of time, curricular restrictions, and lack of attention of educational authorities. It was indicated that Iranian EAP instructors had a positive perspective on promoting their digital literacy. The results suggested that Iranian EAP instructors have acquired their digital literacy through personal experience and no formal training was provided for the instructors. The study can have several implications and applications for improving EAP instructors' digital literacy and paving the way for a more successful implementation of CALL in EAP courses.

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## Introduction

Technology use and inclusion can be regarded as an important enterprise for educational institutions. In the same way, research on technology use in educational settings has become a popular and leading research strand (Bates & Poole, 2003; Bryant & Hunton, 2000; Christensen, 2002; Earle, 2002; Hernández-Ramos, 2005; Kadiyala & Crynes, 2000; Legris, Ingham, & Collerette, 2003; McMillan & Schumacher, 2010; Means, 2010; Teo, 2009; Bodnar, Cucchiarini, Strik, & Hout, 2016; Hsu, 2016; Kakar, 2017; Heckel & Ringeisen, 2019). There is a large amount of research focusing on the roles of students and teachers in using technology in educational contexts and their views towards technology use for learning and teaching practices. Based on the results of these studies, the use of technology can create a facilitating environment for language learning and have a positive impact on educational stakeholders' attitudes and views towards learning and teaching processes (Al-Emran & Salloum, 2017; Ejiaku, 2015; Hussain & Akhter, 2016; Mugo, Njagi, & Chemwei, 2017; Turan, 2010).

One important dimension of technology integration in education is the role of teachers and their digital literacy adequacy. Even those teachers who hold positive attitudes can be discouraged from the use of technology in their pedagogical practices due to their inability to make appropriate use of technology. Therefore, it can be argued that there exists a relation between teachers' levels of digital literacy and the rate of technology integration in educational milieus (Dashtestani, 2014; Son, Robb, & Charismiadji, 2011). Similarly, a plethora of research studies have dealt with the level of digital literacy of teachers and its role in educational activities (e.g. Alqahtani, 2013; Bhebhe & Maphosa, 2016; Konan, 2010; Kretschmann, 2015; Leh, Myers, & Fisher, 2000; Ogundele & Etejere, 2013).

## Literature review

In educational contexts, Çam and Kiyici (2017) examined Malaysian prospective teachers' perceptions of their digital literacy. Results of the study revealed the digital literacy of male teachers were high and teachers of computer and instructional technology departments had relatively a higher level of digital literacy compared to teachers from other departments. Also, those teachers who used the Internet or computers continuously perceived to have higher levels of digital literacy. Teachers' income did not have a significant effect on their digital literacy levels based on the findings of the study. Similarly, Sen (2017) conducted a qualitative case study on language teachers' perceptions of their digital literacy. It was indicated that ideological views of teachers played an important role in their perceptions of their digital literacy. These ideologies included criticality, creativity, beliefs, and a

sense of responsibility. Tyger (2011) investigated teachers' digital literacy levels and their efficacy to incorporate technology. The quantitative study showed the teachers did not have a high level of digital literacy and Web 2.0 digital literacy. There was not a significant relationship between age and the level of digital literacy, while some other factors such as the number of years the teachers used computers and their possession of digital devices were shown to have a relationship with their digital literacy.

Following the same research strand, Garcia-Martin and Garcia-Sanchez (2017) undertook a study on pre-service teachers' perceptions of their digital literacy. It was depicted that digital literacy was dependent to gender and degree of specialization. In another study, Álvarez and Cervera (2015) assessed secondary school teachers' perceptions of their information literacy. Despite the teachers' acceptable perceived level of information technology, some problems with regard to managing, assessing, and transforming information were detected in teachers' digital literacy perceptions. Dashtestani (2014) assessed Iranian EFL teachers' digital literacy levels. The levels of digital literacy of Iranian EFL teachers were reported to be inadequate for the effective use and integration of technology in EFL contexts. The teachers were eager to promote their digital literacy and it was concluded that training is required in order to prepare Iranian EFL teachers for implementing computer-assisted language learning. Yücel and Koçak (2010) uncovered the computer competence of teacher candidates from different majors. They reported that the teachers had an intermediate level of computer competence. Moreover, male teachers had a higher level of computer competence in comparison to the female ones. Finally, it was revealed that teachers of different majors had different perceptions of their computer competence. Kretschmann (2015) investigated the level of technology use and digital literacy of teachers of physical education (PE) using a quantitative research approach. The findings depicted the PE instructors did not make use of technology in their instruction. Furthermore, there was a link between teachers' technology use and their digital literacy. The type of device the teachers used had also an influence on their digital literacy based on the findings of the study.

Likewise, Son, Robb, and Charismiadji (2011) conducted a study on Indonesian EFL teachers' computer literacy levels. It was shown that the teachers had different levels of digital literacy. The study emphasized the importance of computer literacy training for Indonesian EFL teachers. It was also reported that the teachers held positive attitudes towards the use of technology in EFL courses. In Turkey, Konan (2010) explored the computer literacy levels of Turkish teachers. The digital literacy of teachers was at a moderate level. The digital literacy levels of male teachers were higher than the female

ones. The study suggested that in order to encourage teachers to promote their computer literacy, it is important that teachers strive to get international certificates on computer literacy such as European Computer Driving License (ECDL). Ogundele and Etejere (2013) examined the computer literacy of teachers in Nigeria. The findings suggested that high levels of computer literacy can motivate teachers to make use of technology in their courses. In addition, the more computer literate teachers had a better teaching performance comparing those who had lower levels of computer literacy. The need for training concerning different computer literacy skills was also regarded as important.

EAP is "the teaching of English with the specific aim of helping learners to study, conduct research or teach in that language"(Flowerdew & Peacock, 2001, p. 8). The integration of technology in EAP courses has attracted considerable attention (Arno, 2012; Dashtestani & Stojkovic, 2016; Plastina, 2003). Moreover, digital literacy plays a leading role in EAP instruction, while there is limited research with regard to EAP teachers and students' levels of computer literacy and the relevant challenges and limitations (Alavi, Borzabadi, & Dashtestani, 2016). Therefore, the current study is set out to examine Iranian EAP instructors' levels of digital literacy and identify the possible limitations and challenges of fostering EAP instructors' levels of digital literacy in the context of Iran. Accordingly, the following research questions were formulated:

1. What are Iranian EAP instructors' perspectives of their digital literacy levels?

2. What are the attitudes of Iranian EAP instructors towards promoting their digital literacy?

3. What are Iranian EAP instructors' perspectives of their frequency of the use of computer applications?

4. What are the factors which prevent Iranian EAP instructors from promoting their digital literacy?

5. What are Iranian EAP instructors' perspectives of the sources they used to acquire their digital literacy?

## Method

A triangulated design using both questionnaires and interviews was considered for this study. Since the study dealt with the perceptions of individuals, the inclusion of a qualitative and a quantitative instrument was deemed as necessary.

### *Participants*

A total of 79 Iranian EAP instructors participated in the questionnaire study. The instructors were selected from eight different Azad and public universities in Iran. The instructors taught EAP in different engineering, social sciences, arts, and

medicine faculties. The participant had an age range of 32-49. A total of six instructors were PhD holders of English majors and the rest of them held MA degrees in TEFL or English literature. The participants had an average of 5.7 years of teaching EAP in different faculties. The interview participants included 29 EAP instructors. They were chosen from the same sample who participated in the questionnaire phase of the study.

***Instrumentation***

A Likert-item questionnaire which was designed based on previous studies (Dashtestani, 2014; Son, Robb, & Charismiadji, 2011) on instructors' computer literacy was adapted and designed. The items of the questionnaire were examined by a panel of three experts of EAP and CALL to check the content validity of the items. The first section of the questionnaire was about Iranian EAP instructors' perspectives of their digital literacy levels and the frequency of the use of computer applications with a total number of 20 items (Cronbach's Alpha=0.86) based on five-point Likert items from Not proficient to very proficient and never to always for the frequency of use items. The second section dealt with the factors which prevent Iranian EAP instructors from promoting their digital literacy with seven items (Cronbach's Alpha=0.82) and the Likert points from strongly disagree to strongly agree. The thirds part of the questionnaire was about attitudes of Iranian EAP instructors towards promoting their digital literacy with four items (Cronbach's Alpha=0.81) and five Likert points from strongly disagree to strongly agree. The last section contained 3 items and was about Iranian EAP instructors' perspectives of the sources they used to acquire their digital literacy with a yes or no type of response. A piloting study was carried out with 10 EAP instructors prior to the study and the questionnaire was revised based on the feedback received. Consent forms were submitted to all participants before carrying out the study.

Also, a semi-structured interview was designed based on the previous literature and the focus of the questionnaire study. The questions of the questionnaire were validated by consulting a panel of three experts of EAP and CALL. The questions of the interview was about EAP instructors' perspectives of their digital literacy levels and the frequency of the use of computer applications, factors which prevent Iranian EAP instructors from promoting their digital literacy, attitudes of Iranian EAP instructors towards promoting their digital literacy, and EAP instructors' perspectives of the sources they used to acquire their digital literacy. For the purpose of triangulation, the questionnaire sections and interview questions were about similar issues. Consent forms were submitted to the interview participants as well.

***Data analysis***

The data of the questionnaires were analyzed through SPSS version 16 and shown in form of the mean and standard deviation. The reliability of the questionnaire was checked through Cronbach's Alpha test of consistency. The interview data were recorded and transcribed. Two coders coded the data and the common themes reported by both raters were reported in the study. An inter-rater consistency of 0.89 was achieved.

## Results

### EAP instructors' perspectives of their digital literacy levels and the frequency of the use of computer applications

***Questionnaire results***

The values shown in Table 1 reveals that the EAP instructors had limited digital literacy levels in the use of some applications and tools such as graphic software tools, concondancers, blogging, and wikis, while they were undecided about their digital literacy levels in the use of some items such as language learning databases, spreadsheets, video conferencing, computer games, podcasts, and academic social networks. Regarding the frequency of using computer tools and applications, the participants reported that they never or rarely made use of spreadsheets, concordancers, blogging, online discussion groups, voice-chatting, video-conferencing, computer games, academic social network sites, and podcasts.

Table 1. Iranian EAP instructors' perspectives of their digital literacy levels and the frequency of the use of computer applications

| Level of digital literacy | | Frequency of use | |
|---|---|---|---|
| | Mean | SD | Mean SD |
| Word processing | 4.79 | 4.56 0.9 | 0.64 |
| E-mail | 4.83 | 4.78 0.93 | 0.96 |
| World Wide Web | 4.2 | 4.18 0.91 | 0.69 |
| Language learning databases | 0.9 | 3.12 0.7 | 2.95 |
| Spreadsheet | 1.2 | 3.02 1.01 | 0.94 |

Graphic Software tools
2.3 0.98
2.51 1.03

Multimedia (audio & video)
4.1 0.81 3.89
0.88

Language learning software
4 0.77 4.12
0.93

Concordancer
1.02 1.1 0.4
0.91

Blogging
1.1 0.75 0.5
0.68

Wiki
2.4 0.96
4.06 1.07

Online discussion group
3.97 0.83
1.03 0.7

Text chatting
4.32 0.69
4.24 0.61

Voice chatting
4.02 0.79 2.1
0.94

Video conferencing
3.22 0.81
1.45 1

Computer games
2.95 0.9
0.57 0.8

Academic social network sites
3.5 0.97
2.13 0.71

Non-academic social network sites
4.12 1.08 4.6
0.65

Podcasts
3.1 0.99 1.2
0.87

PowerPoint
4.2 0.74
4.45 0.8

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***Interview results***

The majority of EAP instructors (n=21) were of the opinion that their digital literacy was at an intermediate level, while some of them (n=8) reported that that their digital literacy was somewhat low. The instructors (n=25) mentioned that the use of technology for teaching purposes was a different issue from the common use of technology for personal purposes. Therefore, they reported that their level of digital literacy may be lower when it comes to using technology for



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teaching purposes. Regarding the frequency of using digital applications and tools, they mentioned that they usually use the Internet, social network sites, their smartphones, laptops, and tablets. They mentioned that they hardly have time to use other applications frequently.

**Factors which prevent Iranian EAP instructors from promoting their digital literacy**

***Questionnaire results***

Table 2 indicates that the EAP instructors pointed out some factors which prevent Iranian EAP instructors from promoting their digital literacy in the context of Iran such as lack of time to promote digital literacy, lack of training to improve EAP instructors' digital literacy, dominance of traditional approaches to learning in EAP instruction, EAP course designers' lack of attention to improving EAP instructors' digital literacy, and EAP curricular limitations.

Table 2. Factors which prevent Iranian EAP instructors from promoting their digital literacy

| | Mean | SD |
|---|---|---|
| Lack of time to promote digital literacy | 4.67 | 0.6 |
| Lack of training to improve EAP instructors' digital literacy | 4.42 | 0.87 |
| Dominance of traditional approaches to learning in EAP instruction | 4.18 | 0.91 |
| Lack of interest of EAP instructors to foster their digital literacy | 3.09 | 0.96 |
| Students' lack of interest in using technology in the EAP class | 2.82 | 0.72 |
| EAP course designers' lack of attention to improving EAP instructors' digital literacy | 4.52 | 0.7 |
| EAP curricular limitations | 4.64 | 1 |

***Interview results***

In the interviews, the EAP instructors mentioned that the lack of time was a very important factor which impedes their improvement of digital literacy. Also, they believed that EAP instructors in Iran are supposed to teach a lot of courses and their busy work plan does not allow them to do anything to improve their knowledge and skills, including digital literacy. They also stated that digital literacy and technology use are not a matter of concern in Iranian EAP courses and since they are not supposed to use technology, they do not perceive a need to promote their digital literacy. Some EAP instructors were of the opinion that they did not know how to foster their digital literacy levels.

**Attitudes of Iranian EAP instructors towards promoting their digital literacy**

***Questionnaire results***

The EAP instructors showed a positive attitude towards improving their digital literacy. They perceived a couple of benefits of improving their digital literacy such as fostering digital literacy will facilitate EAP instructors' professional development, digital literacy is an important requirement for all EAP teachers, improving digital literacy will enable EAP instructors to use technology in EAP instruction more effectively, a high level of digital literacy will provide EAP instructors with more job opportunities (Table 3).

Table 3. Attitudes of Iranian EAP instructors towards promoting their digital literacy

| | Mean | SD |
|---|---|---|
| Fostering my digital literacy will facilitate my professional development | 4.36 | 0.88 |
| Digital literacy is an important requirement for all EAP teachers | 4.13 | 0.81 |
| Improving my digital literacy will enable me to use technology in EAP instruction more effectively | 4.28 | 0.9 |
| A high level of digital literacy will provide me with more job opportunities | 4.68 | 0.94 |

***Interview results***

All participants had a positive attitudes towards promoting their digital literacy.

They believe that promoting their digital literacy can have a direct impact on their professional success. They mentioned that digital literacy is an important part of their profession, while sufficient attention has not been paid to improving their digital literacy. Finally, they believed that fostering their digital literacy can help them use various technologies in their courses more effectively.

**EAP instructors' perspectives of the sources they used to acquire their digital literacy**

***Questionnaire results***

Table 4 reveals that the EAP instructors learned how to use technology on their own based on their personal experience. The majority of the instructors reported that they did not attend computer courses or workshops to foster their digital literacy.

Table 4. Attitudes of Iranian EAP instructors towards promoting their digital literacy

| | Yes | No |
|---|---|---|
| Attending computer/IT training courses | 1.26% | 98.74 |
| Attending computer/IT workshops | 0 | 100% |
| Learning by personal experiencing | 96.20 | |

***Interview results***

The EAP instructors mentioned that they did not receive any training for improving their digital literacy and that they learned how to use technology by exposure and personal experience. They stated no training courses regarding their digital literacy is available at the university they work.

## Discussion

This study explored the merits and obstacles of improving EAP instructors' digital literacy levels. The triangulated design of this study indicated that digital literacy of EAP instructors in Iran was at an intermediate level. Moreover, the instructors were aware that digital literacy for EAP teaching purposes was different from the one for common personal purposes. Therefore, EAP instructors' digital literacy should be taken into account seriously since the many technological advances of learning technologies can provide EAP instructors with a lot of educational and pedagogical options. For the successful implementation of CALL in EAP instruction, EAP

instructors should be encouraged to become able to use different technologies and applications effectively. Moreover, the instructors seemed to be unsure about their competence to use several computer applications and tools. This issue might indicate that the instructors were not confident enough to use these technologies. Iranian educational authorities should make EAP instructors aware of the benefits of promoting their digital literacy and conduct needs analysis projects in order to identify digital skills which are required by EAP instructors and hold some needs-based training courses in order to foster instructors' digital literacy.

Furthermore, the EAP instructors did not make use of a wide range of applications and digital tools. This lack of use might be relevant to the instructors' low digital literacy levels. In order to use a wide range of computer applications and software tools, it is important that the instructors become aware of the benefits of different technologies, and find them beneficial for their teaching practices. Likewise, nowadays, the new generations of students use a lot of technologies and are interested to learn about different applications of various technologies. As a result, the instructors need to be aware of the advantages and disadvantages of modern learning technologies and apply them in EAP courses. Therefore, a specific committee can be formed in order to identify new emerging technologies and make EAP instructors aware of the merits of such technologies for EAP instruction.

Some pragmatic constrains such as the lack of time and the rigid curricula are the other factors that can demotivate EAP instructors to use technology in EAP courses. These limitations can hamper the professional development of EAP instructors and make them accustomed to the use of old and traditional teaching approaches. It is paramount that EAP instructors be exposed to technological approaches to teaching and find convenient ways to foster their digital literacy from time to time. Also, without considering some motivational measures and policies by educational authorities, the EAP instructors will not be able and willing to know more about the different use of software tools and applications for EAP instruction. The workload of EAP instructors should also be reduced. Having too many classes in one semester needs a lot of energy, planning, and concentration on the part of instructors.

Even with all these challenges and problems, the instructors appeared to adopt a positive attitude towards fostering their digital literacy. This finding is commensurate with Dashtestani (2014) who reported that Iranian EFL teachers perceived the promotion of their digital literacy as important and necessary. Therefore, the removal of all obstacles and challenges in order to include technology in EAP courses

and motivate teachers to learn how to use technology is an essential step to take.

The findings also suggested that the majority of EAP instructors have learned how to use technology by themselves without receiving any formal training or instruction. Moreover, some of them do not know how to promote their digital literacy. Training is an integral part of educational technology use and CALL implementation (Dashestani, 2012) and those who are not trained well might face with some difficulty when using learning technologies. Ideally, the universities or departments can provide some fund or budgets to hold various digital literacy training courses. Regarding the positive attitudes of the instructors towards improving their digital literacy, these courses can provide them with a lot of valuable and promising insights and perspectives.

The study was carried out despite the presence of some limitations. The first limitation was that the perceptions of instructors might be different from the actual situations, while those actual situation could not be taken into account in this study. The second problem was that many instructors did not accept the invitation to participate in the study due to issues such as the lack of time or other problems. The last limitation was about the absence of educational authorities and EAP course designers in this study. Definitely, the top authorities play a very pivotal role in motivating or demotivating instructors to make use of technology in EAP courses.

**Conclusion and implications**

The study indicated the low level of software and application use by Iranian EAP instructors. Despite the majority of teachers perceived to have an intermediate level of digital literacy, high levels of digital literacy are required for the successful inclusion of CALL in EAP instruction. Therefore, it is important that more digital literacy skills and needs be identified and included in the EAP teacher preparation programs. It is also possible that the EAP instructors were not aware of some digital literacy skills necessary for EAP instruction. These digital literacy skills should be defined and investigated properly in collaboration with the content department in which the EAP instructors teach. This issue highlights the importance of providing continuous awareness-raising and training about new emerging digital literacies linked to new learning technologies and consolidating EAP teachers' knowledge of the use of normalized and common learning technologies in a more systematic manner. This can be considered through holding periodic workshops, on-the-job training courses, or even a module of mainstream teacher education/training courses. Alternatively, some specific digital literacy courses based on the needs and requirements of different majors and disciplines might be essential in this regard.

The other serious challenge might be the fact that Iranian EAP instructors do not use many computer applications commonly. In order to persuade EAP instructors to make use of a wide range of computer applications, it might be an effective strategy to make them interested in the use of learning technologies in the EAP class. One problem with the use of many applications in Iran is the limited access to original ones. Educational institutions and universities can facilitate EAP instructors' access to high-quality applications. There is a need to conduct large-scale and nation-wide needs analysis projects on the types of technologies and applications required for different majors and adapt their use to the context of EAP instruction. One possible challenge might be a lack of awareness about the types of technologies which can be beneficial for EAP instruction on the part of EAP instructors. EAP instructors usually should teach in different faculties and departments, while it is not an easy undertaking to be familiarized with different technologies and software tools relevant to the needs of EAP students of different departments and faculties. Other similar contexts of EAP can face similar challenges and obstacles as well. Therefore, a continuous scrutiny over the available computer applications in the educational market and electronic environment is recommended in order to remove any kind of mismatch in this regard.

One significant unresolved issue regarding the use of technology and promotion of digital literacy is the lack of time. It can be argued that spending time on fostering digital literacy and enabling EAP instructors to make proper use of technology should not be considered as an extracurricular activity in the age of computers and digital worlds. Thus, it appears that Iranian educational authorities and decision-makers should pay more attention to the inclusion of technology and computer-assisted language learning in the EAP curriculum and EAP teacher preparation courses. Obviously, prioritizing is an appropriate measure which can indicate what skills and competences are more essential and required for Iranian EAP instructors. The lack of time barrier is a common problem for the majority of teachers and should be accommodated through adopting wise and suitable policies and measures.

A similar barrier is the issue pertinent to the lack of technology-based facilities and equipment. This shortcoming is a strong discouraging factor for many students and teachers. Oftentimes, what educational authorities and fund raisers perceive regarding the suitability of facilities is in contrast to what students and teachers believe and experience. Rationally, teachers are in close contact with the real learning environment and can have a sounder judgment of the actual condition of facilities available. It is thus recommended that observations of EAP classes, interviews

with EAP instructors and students, and more qualitative studies be carried out in order to provide a more realistic picture of the EAP context and its limitations and pragmatic constraints.

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