


**Research Article****Predictors of EFL Teacher Effectiveness in their Online Classes**Fereshte Jafari , Mitra Zeraatpishe\* , Zahra Zohoorian 

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**ABSTRACT**

**Introduction:** Online education has been used more widely after COVID-19. This calls for teachers' familiarity with technological tools and pushes them toward gaining computer literacy to improve their efficacy. Moreover, there is a growing recognition of the need to redefine professional identities in this context. This study was an attempt to investigate the relationships between EFL teachers' professional identity and computer self-efficacy with their effectiveness in online classes.

**Methodology:** To conduct the study, 100 EFL teachers from English language Institutes and schools in Bojnourd, Iran, participated in the study. They completed three questionnaires, namely professional identity, computer self-efficacy, and online EFL teacher effectiveness. The obtained data were analyzed using two Spearman correlation coefficients and one regression analysis.

**Results:** The findings indicated significant relationships between professional identity and computer self-efficacy with teacher effectiveness in online classes. Moreover, it was found that computer self-efficacy was a better predictor of online EFL teacher effectiveness.

**Conclusion:** The findings indicated that teaching effectiveness is a crucial aspect of professional development in online education. This highlights the importance of educators possessing strong computer skills and actively reshaping their professional identities. By doing so, teachers can significantly enhance the success and practicality of their online classes, benefiting both students and the educational system as a whole.

**1. Introduction**

The world evidenced the need for e-learning more than ever (Fallah et al., 2022). As an essential part of e-learning, what is considered necessary is the effectiveness of technology-supported education. Teachers have become aware of their need to be competent users and creative designers of technology-based activities (Sutrisna & Dewi, 2021).

Sangrà et al. (2012) defined e-learning as a system of learning that utilizes electronic technologies to access educational curricula outside traditional classrooms. Hence, the presence of technological devices in teaching and learning has opened up a whole new world of investigation into the issue of effective teaching (Rahimi & Yadollahi, 2011). Teaching effectiveness is obviously an important factor in online education for the widespread use of e-

learning worldwide. There seem to be several factors determining the effectiveness of online EFL courses, including online learning outcomes (Gunawarden et al., 2000; Kreijns et al., 2003; Mallen et al., 2003), teacher flexibility (Hamdan et al., 2013), quality of the online learning environment (Archard, 2014; Bryant & Bates, 2015; Budu, et al., 2018; del Rosal et al., 2016; Khoo et al., 2010; Sun & Chen, 2016; Yuan & Kim, 2014), and teacher professional identity (Budu et al., 2018).

Among the determining factors of EFL teacher online effectiveness, knowledge of computer and web technologies seems to be crucial in online teaching and learning environments (Lee & Lee, 2014). Teachers need to be able to use several modern hardware and software programs to administer online training events, access instructional



materials fully, and communicate with their students. Teachers' computer literacy and competency in online settings have been discussed in some studies as an important factor in gaining self-efficacy (Park & Son, 2009). To define computer self-efficacy, Skaalvik and Skaalvik (2007; 2010) suggest starting with a detailed focus on the broader construct of self-efficacy. They held that self-efficacy determines an individual's actions, goals, and the effort taken in performing tasks. Therefore, computer self-efficacy can be defined as a judgment of one's capability to use a computer. Besides, Bong and Skaalvik (2003) mentioned that the measurement of computer self-efficacy is oriented toward perceptions of confidence in performing specific tasks. Building on this definition, existing research provides evidence of the importance of teachers' computer self-efficacy for their adoption of computers in teaching and learning situations (Govender & Govender, 2009), their intention to use computers (Sang et al., 2010), their technology acceptance (Teo, 2014), and students' learning outcomes (Moos & Azevedo, 2009).

Besides EFL teacher computer self-efficacy, teacher professional identity can also determine the effectiveness of online EFL teachers. Beijaard et al. (2004) defined teacher professional identity as an "ongoing process of integration of the 'personal' and 'professional' sides of becoming and being a teacher" (p. 113). Through the professional identity, the teacher transmits to pupils the information, skills, and values that he or she finds relevant for teaching and learning (Danielewicz, 2001). The improvement of a professional identity is a constant process, in which the teacher self-improves progressively through experience and identifies with the profession of a teacher (Flores & Day, 2006). Korthagen (2004) claims that asking themselves questions like 'Who am I?', 'What kind of teacher do I want to be?', and 'How do I see my role as a teacher?' aids teachers improve their professional identity. Hammerness et al. (2005) specify that "developing an identity as a teacher is an important part of securing teachers' commitment to their work and adherence to professional norms of practice" (p. 383).

At the onset of the COVID-19 pandemic, educational settings have been highly impacted. The concern for the quality of online classes attracts the ELT scholars' attention. Most students believe that their learning and achievement were negatively influenced by online classes (Azizi et al., 2022). This dissatisfaction might have several explanations one of which is teachers' lack of digital and computer literacy. Having no required technical skills in computers can be a source of computer anxiety. This in turn reduces teachers' self-efficacy. Therefore, computer self-efficacy seems crucial in enhancing online EFL teachers' capabilities to influence students' achievement, motivation, and interest in online classroom settings (Klassen & Tze, 2014).

The problem seems to be that in many societies online education has no formal quality structure as traditional ones, and they are taught by instructors who have not earned a higher educational degree or suffer from a lack of digital literacy. This results in less effective online education.

To fill this gap, the current study attempted to explore the relationship between Iranian EFL teachers' effectiveness in online environments with their professional identity and computer self-efficacy. Having emphasized the importance of the variables and the lack of related studies concerning the relationship of EFL teacher effectiveness with teacher computer self-efficacy and their professional identities, the following research questions were proposed.

RQ1: Is there any significant relationship between Iranian online EFL teacher effectiveness and computer self-efficacy?

RQ2 Is there any significant relationship between Iranian online EFL teachers' effectiveness and their professional identity?

RQ3 Which of the two constructs, computer self-efficacy or professional identity could predict online EFL teacher effectiveness?

### **1.1. Review of the related literature**

The present study is based on two theories of e-learning and professionalism. Sangrà et al. (2012) defined e-learning as a method of teaching and learning that is based on the use of electronic media and devices as tools for enhancing the availability of training, communication, and interaction that helps in accepting novel ways of comprehending and establishing learning. According to the definitions mentioned above, two variables of this study, online teacher effectiveness, and computer self-efficacy are laid upon the e-learning theory. A teacher of the current century highly needs knowledge of technology to use in online classes. Besides, for online teaching to be effective, there are several skills for a teacher to gain, namely digital literacy, online materials, and online assessment techniques.

Professional identity, as another variable in this research, is derived from the theory of professionalism. Teachers' professionalism affects their models of teaching (Beijaard et al., 2004). The improvement of professionalism aids teachers changes traditional or authoritative teacher-centered teaching to stress dynamic or recursive student-centered learning. Instead of playing a role as knowledge transmitters, teachers showing higher levels of professionalism become initiators and emphasis on knowledge construction. Teachers' professionalism affects their models of teaching (Beijaard et al., 2004). The improvement of professionalism helps teachers shift from traditional, authoritative, teacher-centered methods to dynamic, recursive, student-centered learning. Rather than merely transmitting knowledge, teachers with higher levels of professionalism become initiators who emphasize knowledge construction. The improvement of a professional identity is a constant process, in which the teacher self-improves progressively through experience and identifies with the profession of a teacher (Flores & Day, 2006). Korthagen (2004) claims that asking themselves questions like 'Who am I?', 'What kind of teacher do I want to be?', and 'How do I see my role as a teacher?' paves the way for teachers to improve their professional identity.

## 1.2. EFL teacher effectiveness in online classes

Teacher effectiveness is defined as a teacher's ability to utilize approaches, strategies, connections to students, and a particular set of attitudes that lead to improved student learning and achievement (Strong et al. 2011). Nowadays, the idea of effective teaching is one of the most critical elements that concerns educational authorities around the world (Rama, 2011). Whitehurst (2002) noted that effective teaching is the cornerstone of change in education and is key to the academic achievement of learners. For defining teacher effectiveness, the literature leads educators to focus on three main phases. The first phase emphasizes student's achievement, mainly the scores they gain on standardized tests (Carrero, 2016; Martineau, 2010). Other studies on teacher effectiveness concentrate on the skills and actions of highly effective teachers (Gallagher, 2012). In addition to these findings and definitions, some other studies go far beyond test scores and skills to identify the mindset and attitudes of the instructors needed to increase teaching effectiveness (Gürol & Kerimgil, 2010; Hobbs, 2012).

According to Reyes-Fournier (2020), effective online teaching involves facilitating student learning and knowledge construction by establishing a strong cognitive, social, and teaching presence that promotes learning through social constructivism, effective communication, and quality instructional techniques. Instructors must actively foster classroom engagement through timely feedback and relationship building while demonstrating content expertise and maintaining technical proficiency. Additionally, regular, active, and thoughtful classroom interactions are essential for managing communications and supervising the learning process. A literature review highlights that successful online teachers also emphasize building strong relationships with students (Bennett & Barbour, 2012; Hoyle, 2010; Mathew et al., 2019; Velasquez et al., 2013).

Hoyle (2010) argues that lecturers even ought to "go the extra mile and do some hand-holding and advising if necessary" (p. 39). The idea of an online learning environment was another factor that was stressed (Archard, 2014; Bryant & Bates, 2015; Budu, 2018; del Rosal et al., 2016; Khoo et al., 2010; Sun & Chen, 2016; Yuan & Kim, 2014).

Yuan and Kim (2014) argue that starting to create a learner community right from the very beginning of a course is essential for online teachers and that students need to recognize the term and the value of such a community for enhanced learning outcomes. Pytash et al. (2016) advise reaching out to experts so that students can learn from "elite" members in their field and connect and engage with them to promote a group of learners afterward. Yuan and Kim (2014) recommend posting assignments that enable students to explore and collaborate on thought-provoking subjects, and Khoo et al. (2010) maintain that daily face-to-face sessions support students. Such social interaction "improves learning interaction, promotes the development of critical thinking abilities, improves learning performance and leads to greater satisfaction with a course," according to Yuan and Kim (2014; p. 223).

Finally, Young (2006) investigated a selected group of students at both undergraduate and postgraduate levels in a study conducted in the United States to elicit their views on effective online higher education practices. Seven distinct characteristics that, according to Young (2006), embody efficient online teaching were developed as a result of the survey. It should be noted that each feature may be linked to similar research on successful online teaching. The seven characteristics were adapting to student needs (Cook & Grant-Davie, 2016; Young, 2006), providing meaningful examples (Dyer et al., 2015; Young, 2006), motivating students to do their best (Young, 2006), facilitating the course effectively (Young, 2006; Yuan & Kim, 2014), delivering a valuable course (Young, 2006), communicating effectively (Crichton & McDaid, 2016; Young, 2006), and showing concern for student learning (Young, 2006).

## 1.3. Computer self-efficacy

Sangi and Bagheri (2016) investigated the impact of computer anxiety and computer self-efficacy on the speaking section of the TOEFL iBT test. Participants were Intermediate EFL learners. The results of the study demonstrated that both computer anxiety and computer self-efficacy significantly affected the performance of Iranian EFL learners. However, computer self-efficacy was more effective on Iranian EFL learners' performance in the speaking section of the TOEFL iBT.

In another study carried out by Chen (2012), one factor was found to affect teachers' computer self-efficacy negatively. The participants were 300 elementary EFL teachers in Taiwan. Data were collected through the survey method. Results indicated that teachers have moderate to high computer phobia and low computer self-efficacy. It is evidenced that computer phobia is negatively associated with computer self-efficacy. Also, it was found that teachers who frequently used computers showed lower computer phobia.

## 1.4. Professional identity

Teachers' professional identity as an ongoing process of interpretation and re-interpretation of experiences implying both person and context and consisting of sub-identities that more or less harmonize with each other - (Beijaard et al., 2004)- has recently undergone some investigations. For instance, Alaei (2015) investigated the association between teacher identity and their multiple intelligences. A total of 137 Iranian EFL teachers teaching in language schools in different cities of Iran participated in her study. First, the results indicated that all types of intelligences correlate significantly with teacher professional identity. The findings also showed that the eight multiple intelligences can predict a teacher's professional identity.

Considering that teacher identity in becoming a teacher educator is central, Izadinia (2016) reviewed related literature about the identity of teachers. The findings indicated that new teacher usually had negative self-views about what they have such as their abilities and professional identities.

Moreover, Rozati (2017) investigated the association between Iranian EFL teachers' professional and institutional identity with their teaching efficacy. The participants were 100 EFL teachers from both private language institutes and public schools. Results of Pearson product-moment coefficients revealed that there was a statistically significant positive relationship between EFL teachers' professional identity and their teaching efficacy. In addition, the findings showed that there was a significant positive relationship between EFL teachers' institutional identity and their teaching efficacy. Moreover, the results of regression demonstrated that professional identity was a better predictor of EFL teachers' teaching efficacy.

In addition, Motalebzadeh and Kazemi (2018) conducted a study to explore the association between EFL teachers' professional identity and their self-esteem. Using convenience sampling, 224 EFL teachers teaching at different language institutes were selected and were asked to fill out two questionnaires; professional identity and self-esteem questionnaire. Structural equation modeling was used to assess the possible relationship between variables. The findings showed that all five sub-constructs of self-esteem are positive significant predictors of professional identity.

To some up, teachers' professional identity is characterized as a nonstop strategy of deciphering and rethinking inclusions and practices that instructors build up through an interpretative system that is molded and reformed through association between educators and the social, social and auxiliary working conditions of their working setting. This can improve the effectiveness of the teachers. Besides, online environments need teachers to have a sufficient amount of knowledge regarding digital tools, especially computers. So it seems that professional identity and computer self-efficacy are two crucial factors to guarantee the EFL teachers' effectiveness in their online classes.

## 2. Methodology

### 2.1. Participants and setting

The participants of the study were 100 EFL teachers who were selected based on convenience sampling. They were teachers at private institutes, schools, and university lecturers. Besides, they were from both genders, male (N = 35) and female (N = 65) English teachers. Their age ranges were from 21 to 45. Their experiences were also from 2 years to 25 years.

### 2.2. Instrumentation

The main instruments of this study consisted of three questionnaires: the computer self-efficacy questionnaire, the online EFL teachers' effectiveness questionnaire, and the teachers' professional identity questionnaire.

#### 2.2.1. Teachers' Computer Self-Efficacy Scale

This scale was developed by Scherer and Siddiq (2015) who considered three subscales to define teachers' computer self-efficacy (CSE), namely Self-efficacy in basic operational

skills, Self-efficacy in advanced operational and collaborative skills, and self-efficacy in using computers for instructional purposes (Appendix A). The teachers were asked to rate the degree to which they perceived their capabilities on a three-point rating scale (0 = I do not think I can do this, 1 = I could work out how to do this, 2 = I know how to do this). These three factors showed acceptable reliabilities (Basic operational skills:  $\alpha = .93$ ;  $\alpha = .90$ ; Advanced operational and collaborative skills:  $\alpha = .83$ ;  $\alpha = .80$ ; Skills in using computers for instructional purposes:  $\alpha = .86$ ;  $\alpha = .79$ ).

#### 2.2.2 Professional Identity Questionnaire

A professional identity questionnaire was developed by Beijaard et al. (2004) study was used. The questionnaire consisted of four parts, the first part consisted of questions about the background variables, and questions about teachers' gender, age, and years of experience. The second part encompasses the subject matter field (four items) these questions explore the extent to which teachers put their teaching based on subject matter knowledge and skills. The third part covers the didactical field (six items), in this part, teachers were asked to what extent their teaching is based on knowledge and skills regarding the planning, execution, and evaluation of teaching and learning processes. The last part is pragmatic expert (four items), in this part, teachers describe how much they base their teaching on knowledge and skills to support students' social, emotional, and moral development. The items are evaluated on a five-point Likert scale from strongly agree to strongly disagree. The reliability of the teachers' professional identity scale was assessed as .83 (Appendix B).

#### 2.2.3 Online EFL Teachers' Effectiveness Scale

This scale is adopted from the study by Mohammady (2021). The questionnaire contains 32 items measured on a five-point Likert scale ranging from strongly agree, agree, neutral, disagree, and strongly disagree (Appendix C). It is a self-report questionnaire that needs each EFL teacher to respond to it based on his status. The reliability of the questionnaire was calculated by Mohammadi (2021).

### 2.4. Procedure

The study was conducted in English language institutes in Mashhad and Bojnourd among 100 Iranian EFL teachers selected using convenience sampling. Then, the questionnaires were administered to the subjects of the study. Participants were given 45-50 minutes to complete the three questionnaires. In the next step, the results were ready for statistical analysis. Pearson correlation and Regression were used to analyze the results.

## 3. Results

### 3.1. Test of normality

To check the normality of data distribution, the

Kolmogorov-Smirnov test was employed. Table 1 presents the results of the Kolmogorov-Smirnov test.

As can be seen, the obtained sig values for all variables were higher than or equal to .05. Therefore, it could be concluded that the data was normally distributed across all the variables.

**Table 1.**  
*The Results of K-S Test*

	Df	Sig.
Online EFL Teacher Effectiveness	100	.05
Teacher Professional Identity	100	.11
Teachers' Computer Self-Efficacy	100	.09

### 3.2. Results of descriptive statistics

Table 2 presents descriptive statistics of variables of this study (online EFL teacher effectiveness, professional identity, and computer self-efficacy) including the mean, standard deviation, maximum and minimum scores. The comparison of these scores appears in the following pages. The possible range of score for online EFL teacher effectiveness, with 33 items was between 33 and 165, for Professional Identity with 14 items was between 14 and 70, for computer self-efficacy with 12 items was between 0 and 24.

As indicated in Table 2, the minimum and maximum scores for total online EFL Teacher Effectiveness were 71 and 165 and the mean score was 116.19. The minimum and maximum scores for Professional Identity were 30 and 68 and the mean score was 45.3. The minimum and maximum scores for Computer Self-Efficacy were 9 and 24 and the mean score was 14.16.

**Table 2.**  
*Descriptive Statistics of Variables of the Study*

	N	Minimum	Maximum	Mean	Std. Deviation
online EFL Teacher Effectiveness	100	71.00	165.00	116.19	12.91
Professional Identity	100	30.00	68.00	45.3	7.57
Computer Self-Efficacy	100	9.00	24.00	14.16	4.70

### 3.3. Reliability of the questionnaires

Table 3 summarizes the information obtained from Cronbach alpha analyses.

**Table 3.**  
*Results of Cronbach Alpha Indexes after Reliability Analysis*

Scale	Number of items	Cronbach alpha
online EFL Teacher Effectiveness	33	.85
Professional Identity	14	.70
Computer Self-Efficacy	12	.68

**Table 6.**  
*The Model Summary for Professional Identity and Computer Self-Efficacy*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.480 <sup>a</sup>	.230	.214	28.99208

a. Predictors: (Constant), professional identity, computer self-efficacy

As can be seen, the utilized questionnaires and tests gained acceptable indexes of Cronbach alpha as a whole; online EFL Teacher Effectiveness (.85), Professional Identity (.70), and Computer Self-Efficacy (.68).

To assess the first research question, Pearson correlation was conducted. Table 4 shows the results of Pearson correlation between online EFL teacher effectiveness and computer self-efficacy.

**Table 4.**  
*Results of Pearson Correlation between Online EFL Teacher Effectiveness and Computer Self-Efficacy*

		Computer self-efficacy
Online EFL teacher Effectiveness	Pearson Correlation	.41**
	Sig. (2-tailed)	.001
	N	100

\*\* Correlation is significant at the 0.01 level (2-tailed).

Results of Pearson correlation indicated that online EFL teacher effectiveness correlated positively and significantly with Computer self-efficacy ( $r = .41, p < .05$ ).

To assess Research Question 2, a Pearson correlation was conducted. Table 5 shows the results of Pearson's correlation between Iranian online EFL teacher effectiveness and their professional identity.

Results of Pearson correlation indicated that online EFL teacher effectiveness correlated positively and significantly with professional identity ( $r = .39, p < .05$ ).

To answer the third research question, Multiple Regression was used to find the predictability power of two independent variables (professional identity and computer self-efficacy) for the online EFL teacher effectiveness. Table 6 shows the model summary.

**Table 5.**  
*Results of Pearson Correlation between Iranian Online EFL Teacher Effectiveness and their Professional Identity*

		professional identity
online EFL teacher effectiveness	Pearson Correlation	.39**
	Sig. (2-tailed)	.000
	N	100

\*\* Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 6, R<sup>2</sup> turned to be .230. It means that 23.00% of the variance of the dependent variable was explained by independent variables. Table 7 reports the results of ANOVA which is considered significant ( $F = 14.48, P < .000$ ).

Table 8 below shows the standardized Beta coefficients specifying the extent of the contribution of independent variables in predicting dependent variables.

As the results show, computer self-efficacy .38% predicts teachers' online effectiveness positively and significantly ( $t = 4.04, p < .05$ ). However, professional

**Table 7.**  
Results of ANOVA for Professional Identity and Computer Self-Efficacy

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24342.964	2	12171.482	14.481	.000 <sup>b</sup>
	Residual	81532.476	97	840.541		
	Total	105875.440	99			

a. Dependent Variable: Online EFL Teacher Effectiveness

b. Predictors: (Constant), computer self-efficacy, professional identity

**Table 8.**  
The Standardized Beta Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	68.538	18.347		3.736	.000
	Professional Identity	.314	.175	.172	1.790	.077
	Computer self-efficacy	.617	.153	.388	4.042	.000

a. Dependent Variable: Online EFL Teacher Effectiveness

identity does not predict online EFL teacher effectiveness ( $t = 1.79, p = .07$ ).

#### 4. Discussion

This research probed three research questions regarding the relationships of computer self-efficacy and professional development with online teacher effectiveness. The first research question was probed and a significant relationship between Iranian online EFL teacher effectiveness and computer self-efficacy was found. Findings are in line with those of Dogru (2020) in that the success of teachers was dependent on their successful experiences which provides the self-efficacy belief to be established and strengthened. Dogru believed that personal experiences are the most effective source that creates self-efficacy belief. And unsuccessful experiences weaken the self-efficacy belief. Also, Dogru found similar results with this study regarding the significant positive correlations between pre-service teachers' perceptions of computer self-efficacy and attitudes towards web-based instruction.

The results are also in agreement with those of Topkaya (2010) who found a positive significant relationship between teachers' computer self-efficacy and their success in using technology. Topkaya believes that if teachers are supposed to be effective users of computer technologies, it is essential that they have positive attitudes and high self-efficacy perceptions in using them.

Second, there is a significant relationship between Iranian online EFL teacher effectiveness and their professional identity. This indicates that those teachers who have formed their identities more firmly in their profession and have been accepted in their community of practice can more effectively and autonomously go for their professional and personal needs and goals. The results are supported by Derakhshan et al. (2020) who found a significant correlation between teachers' professional identity and their success. They found that teachers' professional identity is greatly beneficial to their success. Besides, the findings are in agreement with Labbaf et al.'s (2019) findings, which confirmed that teachers' identity can predict the effectiveness of their teaching. Additionally, Huang and Benson's (2013) support the findings of this study. They

found that teachers' professional identity development paves the way for their improved work effectiveness.

Regarding the findings of the third research question, Computer self-efficacy was a better predictor of online teacher effectiveness than teachers' professional identity. This result seems to be logical since for online education, the first competency to gain is knowledge of working with computers and different software to run the classes better. The channels of teacher-learner communication, the platform through which they interact and teach and learn, and even the way materials are shared and the ways activities are designed affect the effectiveness of an online teacher.

#### 5. Conclusion

Results of correlations indicated that online EFL teacher effectiveness correlated positively and significantly with computer self-efficacy and professionalism. Besides, results revealed that computer self-efficacy predicts teachers' online effectiveness positively and significantly while professional identity does not predict online EFL teacher effectiveness. The results of this research study have several implications for EFL teachers. Teaching effectiveness as a category of professional development is obviously an important factor in online education for the widespread use of e-learning worldwide. 21<sup>st</sup> Century teachers need to shift with the tides of their age regarding the inclination toward online education. Therefore, it seems necessary for teachers to take into consideration the essential factors that impact their effectiveness. One of the research questions probed in the current study revealed significant relationships between online effectiveness and computer self-efficacy. This is proof to focus on sufficient computer literacy and gain the ability to work well with the computer for educational purposes. This not only leads to teacher professional development but also contributes to the learners' better achievements.

Besides, the study findings have implications for administrators at institutions and colleges to focus on training courses for their teachers to equip them with more technological knowledge. This leads to computer self-efficacy and prepares them more for online courses. Private

sectors, universities, and the Ministry of Education should run training courses to develop computer literacy in the educational system and to make computers sensible in the teaching and learning process.

## Declarations

### Competing interest

The authors declare no competing interest.

### Funding

The authors received no financial support for this study.

### Authors' contribution

Mitra Zeraatpishe designed and supervised the whole project. All authors contributed to writing the paper. in the study.

### Ethical considerations

The authors confirm that all authors have reviewed and submitted the manuscript to this journal for the first time.

## References

- Alaee, M. (2015). Investigating the relationship between multiple intelligences and professional identity of Iranian EFL teachers. *Journal of Pan-Pacific association of applied linguistics*, 19(2), 1-21. <https://doi.org/10.1080/23311908.2019.1592796>.
- Archard, S. J. (2014). Feeling connected: A sense of belonging and social presence in an online community of learners. *International Journal of Cyber Ethics in Education*, 3(2), 16-28. <https://www.igi-global.com/article/feeling-connected/123980>
- Azizi, Z., Rezai, A., Namaziandost, E., & Tilwani, S. A. (2022). The role of computer self-efficacy in high school students' E-learning anxiety: A mixed-methods study. *Contemporary Educational Technology*, 14(2), ep356. <http://doi.org/10.30935/cedtech/11570>
- Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, 20, 107-128. <https://doi.org/10.1016/j.tate.2003.07.001>
- Bennett, C., & Barbour, M. K. (2012). The farnet journey: Perceptions of Māori students engaged in secondary online learning. *Journal of Open, Flexible and Distance Learning*, 16(1), 83-91. <https://search.informit.org/doi/abs/10.3316/informit.383959247951479>
- Bong, M., & Skaalvik, E. (2003). Academic self-concept and self-efficacy: How different are they really. *Educational Psychology Review*, 15, 1-40. <http://doi.org/10.1023/A:1021302408382>
- Bryant, J., & Bates, A. J. (2015). Creating a constructivist online instructional environment. *The Learning and Technology Library*, 59(2), 17-22. <http://doi.org/10.1007/s11528-015-0834-1>
- Budu, K. W. A., Yinping, M., & Mireku, K. K. (2018). Investigating the effect of behavioral intention on E-learning systems usage: Empirical study on tertiary education institutions in Ghana. *Mediterranean Journal of Social Sciences*, 9(3), 201. <http://doi.org/10.2478/mjss-2018-0062>
- Carrero, J. (2016). Measuring up: Are you looking for a way to assess your teaching practice? These three frameworks can help you evaluate your performance. *Educational Horizons*, 93(3), 13-15. <https://doi.org/10.1177/0013175X15570854>
- Chen, K. T. (2012). Elementary EFL teachers' computer phobia and computer self-efficacy in Taiwan. *Turkish Online Journal of Educational Technology-TOJET*, 11(2), 100-107. <https://files.eric.ed.gov/fulltext/EJ989017.pdf>
- Cook, K. C., & Grant-Davie, K. (2016). *Online education 2.0: Evolving, adapting, and reinventing online technical communication*. Routledge. <https://doi.org/10.4324/9781315223964>
- Crichton, H., & McDaid, A. (2016). Learning intentions and success criteria: Learners' and teachers' views. *Curriculum Journal*, 27(2), 190-203. <http://doi.org/10.1080/09585176.2015.1103278>
- del Rosal, K., Ware, P., & Montgomery, N. (2016). Mentoring teachers of English learners in an online community of practice. *International Journal of Computer-Assisted Language Learning and Teaching*, 6(3), 1-17. <http://doi.org/10.4018/IJCALLT.2016070101>
- Danielewicz, J. (2001). *Teaching selves: Identity, pedagogy, and teacher education*. Suny Press.
- Derakhshan, A., Coombe, C., Arabmofrad, A., & Taghizadeh, M. (2020). Investigating the effects of English language teachers' professional identity and autonomy in their success. *Issues in Language Teaching*, 9(1), 1-28. <https://doi.org/10.22054/ilt.2020.52263.496>
- Dogru, O. (2020). An investigation of pre-service visual arts teachers' perceptions of computer self-efficacy and attitudes towards web-based instruction. *International Journal of Research in Education and Science*, 6(4), 629-637. <https://files.eric.ed.gov/fulltext/EJ1271344.pdf>
- Dyer, T., Larson, E., Steele, J., & Holbeck, R. (2015). Integrating technology into the online classroom through collaboration to increase student motivation. *Journal of Instructional Research*, 4, 126-133. <http://doi.org/10.9743/JIR.2015.16>
- Fallah, R., Chalak, A., & Heidari Tabrizi, H. (2022). Professional identity reflection of Iranian EFL instructors in e-teaching: Focus on achievement orientation theory. *International Journal of Foreign Language Teaching and Research*, 10(42), 135-148. <https://doi.org/10.30495/jfl.2022.692665>
- Flores, M., & Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multiperspective study. *Teaching and Teacher Education*, 22(2), 219-232. <http://doi.org/10.1016/j.tate.2005.09.002>
- Gallagher, M. (2012). How principals support teacher effectiveness. *Leadership*, 41(3), 32-37. <https://files.eric.ed.gov/fulltext/EJ971407.pdf>
- Govender, D., & Govender, I. (2009). The relationship between information and communications technology (ICT) integration and teachers' self-efficacy about ICT. *Education as Change*, 13, 153-165. <http://doi.org/10.5782/2223-2621.2021.24.3.43>
- Gunawardena, C., Lowe, C., & Carabajal, K. (2000). Evaluating online learning: Models and methods. In D. Willis, J. Price & J. Willis (Eds.), *Proceedings of SITE 2000--Society for Information Technology & Teacher Education International Conference* (pp. 1677-1684).
- Gürol, M., & Kerimgil, S. (2010). Academic optimism. *Procedia-Social and Behavioral Sciences*, 9, 929-932. <http://doi.org/10.1016/j.sbspro.2010.12.261>
- Hamdan, N., McKnight, P. E., McKnight, K., & Arfstrom, K. M. (2013). The flipped learning model: A white paper based on the literature review titled a review of flipped learning. Flipped Learning Network, Pearson, George Mason University. <https://www.maktabe-hekmat.ir/wp-content/uploads/2018/12/2013.-A-REVIEW-OF-FC.pdf>
- Hammerness, K., Darling-Hammond, L., & Bransford, J. (2005). How teachers learn and develop. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 358-389). Jossey-Bass.
- Huang, J., & Benson, P. (2013). Autonomy, agency and identity in foreign and second language education. *Chinese Journal of Applied Linguistics*, 36(1), 7-28. <https://doi.org/10.1515/cjal-2013-0002>
- Hobbs, L. (2012). Examining the aesthetic dimensions of teaching: Relationships between teacher knowledge, identity and passion. *Teaching and Teacher Education*, 28(5), 718-727. <http://doi.org/10.1016/j.tate.2012.01.010>
- Hoyle, J. (2010). The trials and accomplishments of an online adjunct faculty member. *New directions for community colleges*, 2010(150), 37-42. <http://doi.org/10.1002/cc.403>
- Izadinia, M. (2016). Preservice teachers' professional identity development and the role of mentor teachers. *International Journal of Mentoring and Coaching in Education*, 5(2), 127-143. <https://doi.org/10.1108/IJMCE-01-2016-0004>
- Jung, M., & Carstens, R. (Eds.). (2015). *ICILS 2013 user guide for the international database*. Amsterdam: IEA.
- Khoo, E., Forret, M., & Cowie, B. (2010). Lecturer-student views on successful online learning environments. *Waikato Journal of Education*, 15, 17-34. <http://doi.org/10.15663/wje.v15i3.79>
- Klassen, R., & Tze, V. (2014). Teachers' self-efficacy, personality, and teacher effectiveness: A meta-analysis. *Educational Research Review*, 12, 59-76. <http://doi.org/10.1016/j.edurev.2014.06.001>

- Korthagen, F. A. J. (2004). In search of the essence of a good teacher: Towards a more holistic approach in teacher education. *Teaching and Teacher Education*, 20(1): 77-97. <http://doi.org/10.1016/j.tate.2003.10.002>
- Kreijns, K., Kirschner, P. A., & Jochems, W. (2003). Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: A review of the research. *Computers in Human Behavior*, 19(3), 335-353. [http://doi.org/10.1016/S0747-5632\(02\)00057-2](http://doi.org/10.1016/S0747-5632(02)00057-2)
- Labaf, A., Moinzadeh, A., & Dabaghi, A. (2019). Professional identity and teaching quality: The case of Iranian EFL teachers. *Two Quarterly Journal of English Language Teaching and Learning University of Tabriz*, 11(24), 201-225. <https://ensani.ir/file/download/article/1580728905-9818-24-8.pdf>
- Lee, Y., & Lee, J. (2014). Enhancing pre-service teachers' self-efficacy beliefs for technology integration through lesson planning practice. *Computers & Education*, 73, 121-128. <http://doi.org/10.1016/j.compedu.2014.01.001>
- Mallen, M. J., Day, S. X., & Green, M. A. (2003). Online versus face-to-face conversation: An examination of relational and discourse variables. *Psychotherapy: Theory, Research, Practice, Training*, 40(1-2), 155-163. <http://doi.org/10.1037/0033-3204.40.1-2.155>
- Martineau, J. A. (2010). The validity of value-added models: An allegory. *Phi Delta Kappan*, 91(7), 64-67. <https://doi.org/10.1177/003172171009100713>
- Mathew, N. G., Sreehari, P., & Al-Rubaat, A. M. (2019). Challenges and implications of virtual E-learning platform in EFL context: Perceptions of teachers. *International Journal of English Language Teaching*, 7(2), 100-116. <https://ejournals.org/ijelt/vol-7-issue-2-march-2019/challenges-and-implications-of-virtual-e-learning-platform-in-efl-context-perceptions-of-teachers/>
- Mohammady, A., (2021). *On the development and validation of online EFL teacher effectiveness scale*. (Unpublished Thesis, Islamic Azad University, Mashhad, Iran).
- Moos, D. C., & Azevedo, R. (2009). Learning with computer-based learning environments: A literature review of computer self-efficacy. *Review of Educational Research*, 79, 576-600. <http://doi.org/10.3102/0034654308326083>
- Motallebzadeh, K., & Kazemi, B. (2018). The relationship between EFL teachers' professional identity and their self-esteem. *Cogent Education*, 5(1), 1443374. <http://doi.org/10.1080/2331186X.2018.1443374>
- Park, C. N., & Son, J. B. (2009). Implementing computer-assisted language learning in the EFL classroom: Teachers' perceptions and perspectives. *International Journal of Pedagogies and Learning*, 5(2), 80-101. <https://doi.org/10.5172/ijpl.5.2.80>
- Pytash, K. E., Hicks, T., & Ferdig, R. E. (2016). Connecting and collaborating within and beyond a massive open online course. *Journal of Adolescent & Adult Literacy*, 60(2), 195-205. <http://doi.org/10.1002/jaal.549>
- Rahimi, M., & Yadollahi, S. (2011). Computer anxiety and ICT integration in English classes among Iranian EFL teachers. *Procedia Computer Science*, 3, 203-209. <https://doi.org/10.1016/j.procs.2010.12.034>
- Rama, S. (2011). Professor's performance for effective teaching (Kosovo case). *Procedia - Social and Behavioral Sciences*, 12, 117-121. <https://doi.org/10.1016/j.sbspro.2011.02.015>
- Reyes-Fournier, E., Cumella, E. J., Blackman, G., March, M., & Pedersen, J. (2020). Development and validation of the online teaching effectiveness scale. *Online Learning*, 24(2), 111-127. <http://doi.org/10.24059/olj.v24i2.2071>
- Rozati, F. (2017). Relating EFL teachers' professional and institutional identity to their teaching efficacy. *Issues in Educational Research*, 27(4), 859-873. <http://www.iier.org.au/iier27/rozati.html>
- Sang, G., Valcke, M., van Braak, J., & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology. *Computers & Education*, 54, 103-112. <http://doi.org/10.1016/j.compedu.2009.07.010>
- Sangi, Kh., & Bagheri, B. (2016). The effect of computer anxiety and computer self-efficacy on Iranian EFL learners' performance in the speaking section of the TOEFL IBT. *Journal of Language and Translation*, 2(12), 27-36. [https://journals.iau.ir/article\\_528748\\_329b3689c0e5c5634ab8bc9fb837e79e.pdf](https://journals.iau.ir/article_528748_329b3689c0e5c5634ab8bc9fb837e79e.pdf)
- Sangrà, A., Vlachopoulos, D., & Cabrera, N. (2012). Building an inclusive definition of E-learning: An approach to the conceptual framework. *International Review of Research in Open and Distance Learning*, 13, 145-159. <http://doi.org/10.19173/irrodl.v13i2.1161>
- Scherer, R., & Siddiq, F. (2015). Revisiting teachers' computer self-efficacy: A differentiated view on gender differences. *Computers in Human Behavior*, 53, 48-57. <http://doi.org/10.1016/j.chb.2015.06.038>
- Skaalvik, E., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective self-efficacy, and teacher burnout. *Journal of Educational Psychology*, 99, 611-625. <http://doi.org/10.1037/0022-0663.99.3.611>
- Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education*, 26, 1059-1069. <http://doi.org/10.1016/j.tate.2009.11.001>
- Strong, M., Gargani, J., & Hacifazlıoğlu, Ö. (2011). Do we know a successful teacher when we see one? Experiments in the identification of effective teachers. *Journal of Teacher Education*, 62(4), 367-382. <https://doi.org/10.1177/0022487111404241>
- Sun, A., & Chen, X. (2016). Online education and its effective practice: A research review. *Journal of Information Technology Education: Research*, 15, 157-190. <http://doi.org/10.28945/3502>
- Sutrisna, I. P. E., & Dewi, N. P. D. U. (2021). The effectiveness of E-learning for English class in Efl setting and its implication during Covid-19 pandemic. *Language and Education Journal Undiksha*, 4(1), 13-21. <http://doi.org/10.33394/jo-elt.v10i2.7524>
- Teo, T. (2014). Unpacking teachers' acceptance of technology: Tests of measurement invariance and latent mean differences. *Computers & Education*, 75, 127-135. <http://doi.org/10.1016/j.compedu.2014.01.014>
- Topkaya, E. Z. (2010). Pre-service English language teachers' perceptions of computer self-efficacy and general self-efficacy. *Turkish Online Journal of Educational Technology-TOJET*, 9(1), 143-156. <https://files.eric.ed.gov/fulltext/EJ875778.pdf>
- Velasquez, A., Graham, C. R., & West, R. E. (2013). An investigation of practices and tools that enabled technology-mediated caring in an online high school. *International Review of Research in Open and Distributed Learning*, 14(5), 277-299. <http://doi.org/10.19173/irrodl.v14i5.1465>
- Whitehurst, G. J. (2002). Scientifically based research on teacher quality: Research on teacher preparation and professional development. White House Conference on Preparing Tomorrow's Teachers (pp. 39-53). <http://eds-courses.ucsd.edu/tep129/readings/whithurst.pdf>
- Young, S. (2006). Student views of effective online teaching in higher education. *American Journal of Distance Education*, 20(2), 65-77. [https://doi.org/10.1207/s15389286ajde2002\\_2](https://doi.org/10.1207/s15389286ajde2002_2)
- Yuan, J., & Kim, C. (2014). Guidelines for facilitating the development of learning communities in online courses. *Journal of Computer Assisted Learning*, 30(3), 220-232. <http://doi.org/10.1111/jcal.12042>



**Appendix A.**

Online EFL teacher effectiveness questionnaire (Mohammadi, 2021)

<b>As an online EFL teacher,</b>	
1	I try to have an online social presence through communicating and being in contact with my students
2	I care about the quality of the online learning environment.
3	I try to keep my students cognitively present by making them reflect and discuss
4	I make a learner community from the beginning sessions of my online course.
5	I make my students recognize the term and the value of such a community (learner community) for enhanced learning outcomes.
6	I think about what matters most in impacting student learning
7	I try to adapt myself to students' needs
8	I provide meaningful examples
9	I motivate students to do their best
10	I use internet-based formative assessment tools.
11	I am supportive to my students
12	I make my face visible in my online classes
13	I am organized
14	I am responsive to my students
15	I am flexible and open to my students' comments and ideas
16	I feel responsible to my organization to understand and reach their goals
17	I participate in the training courses
18	I try to be creative
19	I establish a good rapport with my students.
20	I participate in Teacher Preparation Programs (TPPs)
21	I integrate new technology into my instruction
22	I make my students use mobiles and smart phone apps to supplement my instruction.
23	I participate in professional development activities to achieve high standards of practice
24	I expect my organization to evaluate me based on the determined frameworks of professional development
25	I participate in reflective and constructive dialogues with my colleagues
26	I use dynamic assessment
27	I try to be liable to ethics of my work
28	I sympathize with my learners.
29	I highly care about academic achievement of my students
30	I facilitate relationships with students
31	I try to communicate with students online right at the very beginning of a course to get to know them well
32	I encourage my students to participate regularly via discussion posts, and/or providing weekly updates
33	I have empathy and compassion to my students

**Appendix B.**

Teachers' computer self-efficacy scale (Jung & Carstens, 2015)

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Item wording

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*How well can you do the following tasks on a computer by yourself? (0 = I do not think I can do this, 1 = I could work out how to do this, 2 = I know how to do this)*

Self-efficacy in basic operational skills

- E-mailing a file as an attachment
- Storing your digital photos on a computer
- Filing digital documents in folders and sub-folders
- Producing presentations with simple animation functions (e.g. [Microsoft PowerPoint<sup>®</sup>]),
- Using the Internet for online purchases and payments

Self-efficacy in advanced operational and collaborative skills

- Using a spreadsheet program (e.g. [CALC, Microsoft Excel<sup>®</sup>]) for analysing data
- Contributing to a discussion forum/user group on the Internet (e.g. a wiki or a blog)
- Collaborating with others using shared resources such as [Google Docs<sup>®</sup>]
- Installing software

Self-efficacy in using computers for instructional purposes

- Using a spreadsheet program (e.g. [CALC, Microsoft Excel<sup>®</sup>]) for keeping records (e.g., student data)
  - Preparing lessons that involve students' use of ICT
  - Assessing student learning
-

**Appendix C.**

Teacher professional identity (Beijaard et al., 2004)

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>II: Subject matter field</b>						
1	It is necessary to keep pace with new developments.	1	2	3	4	5
2	It is necessary for students to have a knowledgeable teacher.	1	2	3	4	5
3	Teachers cannot permit themselves to make mistakes.	1	2	3	4	5
4	Subject matter is not the only basis for a teacher.	1	2	3	4	5
	<b>III: Didactical field</b>					
5	It is important to keep into account the students' level.	1	2	3	4	5
6	There are many ways to teach and learn the same thing	1	2	3	4	5
7	Students' ways and strategies of learning is important.	1	2	3	4	5
8	Planning and organization are the basis for teaching.	1	2	3	4	5
9	To motivate and interest students by changing learning activities is important.	1	2	3	4	5
10	It is Necessary to be alert by listening and observation	1	2	3	4	5
	<b>IV: Pedagogical field</b>					
11	It important to be positive, open, respectful etc. when approaching students.	1	2	3	4	5
12	Good/safe classroom climate is a necessary condition for teaching.	1	2	3	4	5
13	Being alert for signs of students/ showing involvement is important.	1	2	3	4	5
14	Students' situation/well-being is starting point for the lessons.	1	2	3	4	