

Exploring Barriers to Technology Integration among Iranian EFL Teachers across Educational and Professional Contexts

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Research Paper

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Abstract: The integration of instructional technology has become a crucial component of English language teaching, offering opportunities to enhance learner engagement, support individualized instruction, and improve educational outcomes. Despite these advantages, many teachers continue to face challenges in effectively incorporating technology into classroom practice. This study explored the barriers to technology integration among 52 Iranian EFL high school teachers in Guilan using a researcher-developed 32-item Barriers to Technology Integration (BTI) questionnaire. Exploratory Factor Analysis employing Principal Components Analysis identified two major categories of barriers: internal and external factors. Internal barriers mainly involved limited computer literacy and insufficient professional training, while external barriers included inadequate access to technological resources and institutional limitations. Together, these factors accounted for 46.35% of the total variance, with factor loadings ranging from 0.42 to 0.81, indicating acceptable construct validity. Although no significant gender differences were observed, teachers' perceptions differed based on academic degree, participation in professional development courses, and years of teaching experience; field of study showed no significant effect. The findings highlight the interaction of personal, professional, and institutional factors influencing technology adoption and underscore the need for improved infrastructure and continuous professional development in Iranian EFL contexts.

Keywords: Internal and External Factors, Iranian EFL Teachers, Professional Development, Technology Integration Barriers

Introduction

Teachers are increasingly expected to recognize the significance of educational technology due to its proven effectiveness in enhancing teaching and learning processes. This recognition accounts for one of the motives for major methodological and organizational changes in education. However, technology cannot be effective without teachers' knowledge and familiarity with its application to accomplish instructional objectives (DeCoito & Richardson, 2018). Despite the promising technology-based educational applications, conventionally traditional language teaching practices are still used (Mahmood et al., 2021). Teachers are not inclined to embrace technology in their teaching practices because they have problems integrating technology due to insufficient technical and technological knowledge and skills, unavailability of specialized tools, and lack of time (Abbasi et al., 2022; Scherer et al., 2021; Singhavi & Basargekar, 2019).

Although education worldwide has been influenced by new technological developments in information technology (IT), which have led to a massive shift in implementing education (Abbasi et al., 2022; Putri & Syafryadin, 2025), and despite the proven effectiveness of smartphones, tablets, and technology-integrated devices in altering teaching practices, teachers still consider computers, television, radio, and projectors the essential tools in teaching (Mahmood et al., 2021). Therefore, various factors

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should be thoughtfully considered when technology is encouraged to be employed by teachers for educating learners since technology integration is a multifaceted challenge for numerous teachers (Sabiri, 2020).

In the Iranian EFL context, technology integration presents additional challenges related to infrastructural limitations, uneven access to digital resources, and inconsistencies in professional development opportunities. Although Iranian teachers increasingly recognize the potential value of technology for enhancing language learning, many continue to experience difficulties in incorporating digital tools meaningfully into their teaching practices (Abbasi et al., 2021; Mahmood et al., 2021). These challenges underscore the need to examine both teacher-related and context-related factors that influence technology adoption in Iranian high school EFL classrooms.

Accordingly, the present study aims to investigate the barriers to technology integration among Iranian EFL high school teachers by examining both internal factors (such as attitudes, beliefs, and technological competence) and external factors (including access to resources, institutional support, and professional development opportunities). By adopting a factor-analytic approach and exploring variations in teachers' perceptions across demographic and professional variables, the study seeks to provide a comprehensive understanding of the obstacles that hinder effective technology integration in Iranian EFL education.

Literature Review

Theoretical Framework: Internal and External Factors

The study utilizes the theoretical framework proposed by Tearle (2004), which concentrates on numerous internal and external factors in technology integration. Tearle proposes that teachers' attitudes and motivation (internal factors), as well as their competence, availability of resources, and administrative support (external factors), can hinder the successful integration of technology. As noted by Tearle, "practical factors and attitude/ethos are two important factors for effectively implementation of ICT in schools" (p. 337). Among the external factors are school management, time availability for both teachers and students, technological accessibility, and the adequacy of training and support systems. The internal or attitude factors include the insight and views of schools' stakeholders including teachers and managers. According to Tearle (2003), both kinds of factors are essential for applying changes in ICT process. In fact, the school should be equipped with the needed resources and infrastructure to make the desired changes accompanied with the overall culture that is supportive of ICT implementation.

Emerging Opportunities and Persistent Barriers

The emergence of innovative and adaptive employment of educational technologies, like applications and social media provide new lines of language teaching (Ridha & Fithriani, 2025). According to Tarman (2017), they offer novel educational openings for instructors to improve their education. These tools enable collaborative learning, authentic language exposure, and increased learner autonomy, all of which are particularly valuable in EFL contexts. However, despite these pedagogical opportunities, empirical studies consistently report that technology use in language classrooms remains limited and sporadic (Teo et al., 2021).

Teachers' easy access to technology resources helps them use technology in their teaching (Bao, 2018). For instance, research in secondary education contexts across Asia and Africa has revealed that inadequate infrastructure and financial constraints significantly hinder meaningful ICT use in classrooms (Scherer et al., 2021). Similarly, Smith et al. (2021) found in their study in Canada that even when teachers have positive dispositions toward edtech, limited devices per student, inconsistent internet access, and insufficient on-site technical support significantly dampen adoption intensity and impede sustained use.

The results of study by Batane and Ngwake (2017) also revealed the unavailability of resources as the likely barrier in implementing technology in education. A study done by Abbasi et al. (2022) displayed that the lack of resources and training are the hindrances to real integration of technology in English teaching. In addition, a recent study carried out by Mahmood et al. (2021) explicitly emphasized the vital role of teaching aids like computers, the Internet, and projectors in integrating technology in English language teaching settings.

In addition to contextual constraints, teachers' internal characteristics significantly influence technology integration. Research suggests that teachers' beliefs about teaching and learning, their attitudes toward technology, and their perceived technological competence shape how and whether technology is used in the classroom (Teo & Zhou, 2017; Scherer et al., 2019).

According to Menabò et al. (2021), factors such as teachers' beliefs and attitudes are the major obstacles hindering their technology integration in educational settings. In their study, Abbasi et al. (2021) who focused on the prominence of attitudes as a good predictor for integrating technology in teaching English as L2, highlighted that teachers' lack of positive attitude toward technology use in teaching and learning process was the main inhibitor of successful integration of technology. Az-Zahra et al. (2024) reported the significance of teachers' beliefs and attitude toward technology use in classrooms.

Other researchers (e.g., Instefjord & Munthe, 2017; Trust et al., 2018) also report that teachers need to own adequate ICT-related skills to be capable of integrating technology in their educational activities. Although Kimmons and Hall (2016) showed in their study that although most teachers are enthusiastic to integrate technology into their instructional activities, they are not able to do so because, as Falloon (2020) remark, teachers' limited technological competence is a barrier to do so. Given this, teachers need to develop the technological competence required to integrate digital tools effectively into their lesson planning and classroom practices. Moreover, they are more likely to adopt emerging technologies when they understand their pedagogical value and recognize the benefits they can offer to teaching and learning (Rahimi & Rezvani, 2024).

Furthermore, teachers' lack of training is also influential in integrating technology, and their lack of knowledge and skills may be attributed to their lack or inadequate in-service training. Empirical findings indicate that many teachers receive fragmented or tool-focused training that does not sufficiently address instructional design, classroom application, or subject-specific integration, particularly in language education contexts (Scherer et al., 2019; Trust et al., 2018). Lawrence and Tar (2018) also argue that inadequate technological resources, lack of training on using technology, and poor capabilities are the foremost obstacles to integrating technology into teaching practices.

Recent research consistently indicates that teachers must possess adequate ICT-related knowledge and skills to integrate technology effectively into their instructional practices (Scherer et al., 2019; Tondeur et al., 2019). Although many teachers express strong enthusiasm and positive attitudes toward the use of technology, this motivation often fails to translate into classroom practice due to limited pedagogical and technological expertise (Trust et al., 2018). Conversely, some studies suggest that in contexts with strong peer collaboration, leadership support, or flexible teaching practices, teachers are able to leverage their existing skills to integrate technology successfully, even when formal training is limited (Falloon, 2020; Al-Emran et al., 2018). These contrasting findings indicate that while ICT competence is critical, the broader social and institutional context significantly influences the effectiveness of technology integration (Suwarni & Natsir, 2024).

Overall, the literature points out the impact of both internal and external factors on how teachers set their instruction. Accordingly, the current study aimed to examine the Iranian English language teachers' perceptions about the obstacle to technology integration into instructional activities in Iran by posing three questions:

Research Question One: How do Iranian EFL high school teachers perceive the internal and external barriers to technology integration?

Research Question Two: How do Iranian EFL high school teachers perceive role of the in-service training courses in mitigating internal and external barriers to technology integration?

Research Question Three: How do Iranian EFL high school teachers perceive the internal and external barriers to technology integration with regard to their gender, teaching experiences, fields of study, and university degree?

Methodology

Design of the Study

A quantitative survey was used to examine the perceptions of Iranian EFL English teachers about the obstacles to technology integration in English language classrooms. The study used an ex-post-facto design one since there was no examination of relationship among the variables, no experimental treatment, no random selection of the participants, and no control over the variables (Hatch & Farhady, 1982). This design is appropriate for exploring participants' self-reported experiences and perceptions in real-world educational contexts.

Participants

The participants were 114 high school English teachers practicing in Rasht, Iran, during the 2023–2024 academic year. Participants were selected through convenience sampling, which was deemed appropriate given the accessibility of teachers and the exploratory nature of the study. While convenience sampling may introduce selection bias and limit generalizability, it allowed for efficient data collection in a context where random sampling was not feasible. The population diversified in demographic profiles like gender, teaching experience, and academic degree. They were of both genders (male, $N = 55$, female, $N = 43$) with 5-10 ($N = 25$), 11-16 ($N = 33$), 17-22 ($N = 24$), 23-28 ($N = 16$) years of teaching experience. The participants' academic qualifications varied, allowing the study to examine potential differences in perceptions based on professional background.

Instrument and procedure

Researcher-Developed Questionnaire Of BTI

A researcher-developed questionnaire of BTI was used to collect data from the teachers. The preliminary questionnaire consisted of 35 items, each rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Using expert opinions obtained from five faculty members and five English teachers, the researcher revised the draft questionnaire items.

The construct validity was achieved through the use of exploratory factor analysis (EFA). The EFA was used to define the constructs of the questionnaire, and the selection of items to be included in the measure for data reducing purpose. Moreover, the Cronbach's alpha of the questionnaire was calculated to be .889. In addition, the internal consistency coefficient of both internal and external dimensions was calculated to be .87 and .85, respectively.

As a 35-item questionnaire (35 variables) was administered to 114 participants, the analysis was $35/114 = 3.25$ respondents for each variable, which conformed to the sampling size criterion. However, 98 respondents gave their answers back to the on-site researcher correctly. Before the beginning of factor

analysis and factor extraction, the sampling size and adequacy of items and respondents were gained. The Kaiser-Meyer-Olkin (KMO) sampling adequacy and the Bartlett's Test of Sphericity (BTS) were calculated as well. The KMO sampling adequacy test statistic for all 35 variables was 0.715, which was large enough for further analysis and higher than the threshold value of 0.5. The BTS statistic was 4932.217, well over 0.05. Thus, the test results supported that the variables had satisfactory characteristics to conduct factor analysis.

Next, a Principal Components Analysis (PCA), as the extraction technique of EFA, was implemented to achieve the validity of the constructs of BTI questionnaire of the internal and external barriers to technology integration. The result showed that the constructs enjoyed high factor loadings. With three variables removed from the questionnaire, a 32 scale was developed. The component matrix of rotated factors comprised the factor loadings of each variable under the constructs of internal and external factors. The researcher suppressed all loadings less than 0.4 (see appendix A). The results of EFA revealed that the scale of BTI consisted of two barriers of internal and external types. 46.35% of the total variance was accounted for by these factors, which is, according to Pallant (2016), an acceptable range of rate. The data were analyzed descriptively and inferentially using descriptive tables, independent sample *t*-tests, and a one-way ANOVA.

The questionnaire was administered in-person, with participants completing it under the supervision of the researcher. To promote honest responses and reduce social desirability bias, participants were informed that their responses would remain anonymous and confidential. It is also worth noting that all participants were informed of the study's purpose, and data were collected with their voluntary consent. Measures were taken to ensure response anonymity and reduce social desirability bias.

Results

Teachers' Responses to the Survey

The BTI scale was employed to examine the perceptions of English language teachers about the barriers they encounter while trying to integrate technology into their teaching activities. The teachers' responses to the questionnaire items are presented in Appendix B in terms of means and the standard deviations.

The results indicate that the teachers mainly face external barriers that confine their implementation of technology. For example, the most acknowledged barrier for the use of technology was the nonexistence of operative computer labs. Next, the teachers considered a poor internet connection as a giant barrier to the technology use at the school. The other barrier was pertinent to the teachers' professional development (PD). Many teachers agreed that PD workshops were unrelated and did not support them to integrate technology.

Furthermore, the teachers agreed that some factors were unrelated to the internal barriers. They showed that they were interested in integrating technology. Additionally, they expressed that technology integration improves learners' learning. Accordingly, the negative views about the integration of technology were not realized as barriers to the technology use.

In-Service Training Courses and BTI

Table 1 shows a descriptive analysis of the teachers' perception about both the external and internal barriers to integrating technology according to the training they have received during their professional career.

Table 1*Analysis of Teachers' Perception about the Training-Related Barriers to Integrating Technology*

Training	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
External Barriers								
Yes	57	60.52	13.97	.429	16.421	27.369	19.00	28.00
No	41	67.48	13.31	.436	15.852	22.254	17.00	25.00
Internal Barriers								
Yes	57	25.81	7.38	.369	17.841	26.412	18.00	29.00
No	41	27.93	7.98	.378	16.624	21.741	17.00	26.00

The result showed that 57 English teachers (59.6%) attended in-service training associated with technology integration, while 41 teachers (40.4%) did not attend. In both cases of external and internal barriers, the mean scores of teachers with no training are more than the teachers who received training during their teaching career. In other words, there is a difference between the means and standard deviations of the teachers' responses to both types of barriers. An independent sample t-test was carried out to know whether teachers' views about BTI were different by joining in-service training courses associated with technology use (Table 2).

Table 2*Independent Sample t-Test Regarding Differences in Technology-Related Training*

t-test for Equality of Means							
95% Confidence Interval of the Difference							
Training	N	df	SED	t	sig.(two-tailed)	Lower	Upper
External Barriers	98	51	.35214	-2.326	.004	8.65214	9.62143
Internal Barriers	98	51	.36517	-1.658	.006	7.31476	8.57891

The test was significant ($t(51) = -2.326, p = .004$), ($t(51) = -1.658, p = .006$), for the external and internal barriers, respectively. Thus, it can be concluded that the teachers who did not attend any technology integration training encountered more external and internal barriers than did the teachers who attended the training courses.

Gender and BTI

Based on the demographic data, 43 (43.8%) teachers were female, while 52 (56.1%) teachers were male. Table 6 shows the teachers' responses to the external BTI in their classrooms.

Table 3*The Results of Descriptive Statistics of Male and Female Teachers' Perception on External Barriers*

External Barriers	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
Male	55	26.963	6.551	.375	18.523	25.417	21.00	28.00
Female	43	25.341	6.147	.335	18.925	21.458	21.00	26.00

As shown in Table 3, the difference between the means and SDs of the responses to the external barriers for both genders are somehow small and identical. Likewise, the teachers' responses to the internal BTI were descriptively analyzed (Table 4).

Table 4

The Results of Descriptive Statistics of Male and Female Teachers' Perception on Internal Barriers

Internal Barriers	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
Male	55	24.963	7.551	.389	18.523	27.417	19.00	27.00
Female	43	23.341	7.147	.389	17.925	25.458	18.00	26.00

The results indicate that the difference between the means and SDs of the responses to the internal BTI is approximately the same for both genders. However, to test whether the teachers' perceptions about BTI differed statistically by gender, an independent sample *t*-test was run to both external and internal barriers (Table 5).

Table 5

Independent-Sample t-Test on Teachers' Perception on External and Internal Barriers

<i>t</i> -test for Equality of Means							
95% Confidence Interval of the Difference							
Male & Female T.	N	df.	SED	t	sig.(two-tailed)	Lower	Upper
External Barriers	98	50	.31873	.222	.06667	7.28045	8.58622
Internal Barriers	98	50	.32321	.244	.05556	8.52471	9.62547

The independent-samples *t*-test displayed no statistically significant difference in the means of male and female teachers' perceptions on both external and internal BTI ($p > 0.05$). The perception of both groups was almost the same. That is, there was no statistically significant difference in external barriers $t(222) = .50$, $p = 0.666$, two-tailed and internal barriers $t(244) = .50$, $p = 0.555$, two-tailed. Consequently, the non-significant p value revealed that the male and female teachers' means of the perception of both external and internal BTI were similar.

Teaching Experience and BTI

Teachers' responses to the external and internal BTI were descriptively and inferentially analyzed according to their different years of teaching experiences. Table 6 shows that teachers answered the survey items of the external barriers differently according to their years of teaching experience.

Table 6

Descriptive Statistics on the Teachers' Responses to External Barriers Based on Teaching Experiences

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
5-10	25	26.963	4.551	.375	18.523	25.417	21.00	29.00
11-16	33	23.369	4.147	.335	18.925	21.458	18.00	26.00
17-22	24	18.132	4.485	.386	14.745	19.523	15.00	21.00
23-28	16	17.821	5.231	.365	16.397	17.132	14.00	19.00

As found, a sizable degree of variations appeared among the teachers. The mean scores were 26.93, 23.36, 18.13 and 17.821 for 5-10, 11-16, 17-22, and 23-28, respectively. These variations in the mean scores of the responses indicated various degrees of differences among the teachers with different years of teaching.

In order to know whether teachers' ideas about the external BTI differed by their teaching experience, a one-way ANOVA was run. The homogeneity of variances test was first measured for the teachers' responses to the items to test whether the scores variance was similar for each group divided according to their teaching experiences (Table 7).

Table 7

Levene's Test for the Teachers' Responses to External Barriers Based on Teaching Experiences

Levene Statistic	df1	df2	Sig.
.736	4	412	.432

As shown in Table 7, the Sig. for Levene's test is greater than .05 implying that the .432 is greater than .05. Thus, the homogeneity assumption of variance was not violated for the scores. According to Table 8, the results of one-way between groups ANOVA indicated the groups with different years of teaching experiences showed different results in their answers to the external barriers.

Table 8

One-Way ANOVA for Teachers' Responses to External Barriers Based on Teaching Experiences

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	578.077	4	89.528	5.627	.000
Within Groups	8325.942	412	18.231		
Total	8904.019	419			

The results revealed statistically significant differences among the teachers at the $p = .000$. It implies that the $F(4, 41) = 5.627$ is larger than the p . Thus, it can be said that teachers with different years of teaching answered differently to the external items. Additionally, the effect size was calculated to be .06, which is considered a medium effect size.

Teachers' responses to the internal BTI were also descriptively and inferentially analyzed according to their different years of teaching experiences. Table 9 shows teachers' responses to the internal barriers with different years of teaching experience descriptively.

Table 9

Descriptive Statistics on the Teachers' Responses Internal Barriers Based on their Teaching Experiences

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
5-10	25	24.327	5.325	.429	16.257	23.812	19.00	26.00
11-16	33	21.381	5.824	.412	17.529	20.514	17.00	24.00
17-22	24	17.259	5.324	.432	15.219	18.259	13.00	19.00
23-28	16	14.146	5.982	.478	14.628	16.234	12.00	17.00

As shown, the variations in the mean scores of the responses indicated various degrees of differences among the teachers with different years of teaching practices. In order to evaluate whether teachers' ideas about the internal BTI differed by their teaching experience, another one-way ANOVA was carried out before which, the homogeneity test of variances was measured for the teachers' responses to the items based on their teaching experiences.

The homogeneity assumption of scores variance achieved via for Levene's test was not violated since the Sig. for Levene's test was .422 that is larger than .05. The results of one-way between groups ANOVA indicated the groups with different years of teaching experiences showed different results in their answers to the internal BTI (Table 10).

Table 10*ANOVA Results for Teachers' Responses to Internal Barriers Based on Teaching Experiences*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	629.324	3	74.359	4.241	.000
Within Groups	8741.822	412	16.428		
Total	9371.146	415			

Statistically significant differences were reported according to teachers' different teaching experiences. The F statistics (3, 41 = 4.24) is larger than the probability value, revealing that there were variations in answering the internal items among teachers with different years of teaching practices. Besides, the effect size was .06, considered as a medium effect size.

Discussion

This study explored the barriers to technology integration into Iranian EFL high school teachers' teaching practices as perceived by them. The results both confirms and contradicts the related studies. They disclose that despite the teachers' realization of the advantages of technology integration, they are not willing to integrate technologies in teaching due to lack of facilities and support. Trust et al. (2018) confirms the point by mentioning that "the fewer the barriers in using ICT facilities and equipment, the more likely the teachers and students practice ICT in schools" (p. 9).

In spite of the prevalence of ICT training for teachers, computer labs are reflected as barriers by EFL teachers. Similarly, in line with the previous research (Hutchison & Colwell, 2016), lack of computer lab remains a key barrier for teachers to fulfill the purpose of technology integration. Poor Internet connection was also considered as a main block to technology integration. These findings are supported by studies carried out by Tondeur et al (2020) and Tarman (2017) maintaining that lack of technological tools and devices limited teachers' integration of technology.

Professional development focused on technology integration is a crucial factor in promoting the effective use of technological tools in teaching (Falloon, 2020). Accordingly, lack of training is perceived as a significant barrier to technology integration (De Almeida & Weber, 2025). Indeed, Iranian EFL teachers confirmed that trainings they received were not relevant to their needs for technology integrating. Some researchers (e.g., DeCoito & Richardson, 2018) had previously argued that teachers' views of training in technology were a major barrier to their technology integration. Thus, as noted by Rahimzadeh et al. (2023), teachers often lack sufficient understanding of cybergogy and heutagogy, which can limit their ability to apply these approaches effectively. A recurring challenge is teachers' limited knowledge of the theoretical principles underlying these learning models.

In addition, the findings propose that the absence of organizational support is also supposed to be a crucial barrier to technology use. As Ridha and Fithriani (2025) argue, administration needs a persuasive technology policy to safeguard an actual technology use. Likewise, administrators should inspire and persuade an effective and efficient use of technology in teaching (Putri & Syafradin, 2025).

The findings also showed that technology integration was not perceivably affected by the teachers' gender. These findings supported previous research indicating similar results (Sabiri, 2020; Suwarni & Natsir, 2024). These results demonstrated that regardless of gender, both external internal barriers are still the main concerns of teachers in technology integration.

Some other studies are also aligned with results of the current research that teachers' lack of technology skills and digital literacy is an obstacle to integrating of technology. For example, Ali and Azhar (2018) point out the use of inflexible technology use at schools and the lack of EFL teachers' persuasion to use technology-based instructional tools. Similarly, Iftakhar (2016) and Bao (2018) identified teachers' lack

of computer and network skills in their teaching and conclude that the absence of motivation to make use of use technology is a key barrier. Ertmer et al. (2020) state that the knowledge of technology use needs to be promoted so that it triggers the teachers' passion and assurance in integrating technology in their instruction.

Conclusion and Implications

Taking into consideration of the findings and the related literature, it is of prime significance to know that teachers play an irrefutable role in application of technology-based instruction. And, teachers' integration of technology can have an instructive and informative influence on their instruction if it is utilized under appropriate conditions supported by proper sources, adequate training.

For successful integration of technology, teachers' voice, and teachers' acceptance and attitude need to be highly noted. The results of the study specified that Iranian English teachers encounter both external and internal barriers, and they create a great part of teachers' challenges and predicaments that they encounter during their profession.

The findings can assist educational authorities to consider execution of programs for teachers' professional development. Inspiring optimistic views about the importance of practicing technology use via training courses or workshops appears to be an instillation for teachers. Accordingly, the authorities can help improve schools' curriculum, infrastructure frames, teachers' accessibility to technological devices and programs.

The research may assist education authorities adopt policies that can simply help teachers develop more technically and digitally oriented instruction. Undoubtedly, the removal of the barriers will help teachers augment technology integration into their teaching. Therefore, further research can be carried out to inspire more functioning use of technology into teaching practices. Such studies can achieve invaluable insights about the in-depth technology use in classes through qualitative measurements such as classroom observations and interviews so that the real technology uses in classes can be specified.

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