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An Investigation on EFL Teachers' Problem-Solving Skills Considering Gender and Experience Differences

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ABSTRACT

Purpose: This study aims to investigate the problem-solving skills applied by Iranian EFL teachers, considering the variables of gender and teaching experience (novice vs. experienced).

Methods and Materials: The study employed a mixed-methods approach. In the qualitative phase, semi-structured interviews were conducted with 30 EFL teachers (15 male, 15 female) from private language institutes in Hormozgan Province, Iran. The data from these interviews were analyzed using MAXQDA software. In the quantitative phase, a self-constructed questionnaire was administered to 200 EFL teachers to validate the qualitative findings. The questionnaire covered six components of problem-solving skills: setting clear expectations, establishing a positive learning environment, active listening, positive reinforcement, managing behavior, and collaborating with parents. The collected data were analyzed using descriptive statistics and MANOVA.

Findings: The results indicate significant differences in problem-solving skills based on gender and experience. Female teachers scored higher than male teachers across all six components (e.g., female teachers had higher means in active listening: $M = 3.06$ vs. $M = 2.15$; $F = 47.66$, $p < .05$). Similarly, novice teachers scored higher than experienced teachers in all areas (e.g., novice teachers scored higher in managing behavior: $M = 3.01$ vs. $M = 2.16$; $F = 41.84$, $p < .05$). The MANOVA results demonstrated large effect sizes for both gender and experience differences (partial $\eta^2 = .320$ and $.321$, respectively).

Conclusion: Female and novice teachers exhibited stronger problem-solving skills in managing classroom dynamics, particularly in areas like active listening, behavior management, and parent collaboration. These findings suggest the importance of targeted professional development programs to enhance problem-solving skills, especially for male and experienced teachers.

Keywords: Problem-solving skills, EFL teachers, gender differences, novice teachers, experienced teachers, classroom management.

1. Introduction

In the field of English as a Foreign Language (EFL), teachers face myriad challenges that require not only linguistic proficiency but also strong problem-solving skills to navigate complex classroom dynamics. As Abdulhay (2023) notes, EFL teachers encounter critical incidents that necessitate swift and effective resolution to maintain classroom harmony and ensure student engagement (Abdulhay, 2023; Faribi et al., 2019; Marzoughi et al., 2020; Najafi et al., 2024; Rafizade Tafti et al., 2023; Seidi et al., 2018).

The significance of problem-solving in EFL teaching cannot be overstated. According to Aghaei, Bavali, and Behjat (2020), Iranian EFL teachers' role identities are deeply intertwined with their ability to manage classroom challenges and facilitate learning outcomes (Aghaei et al., 2020). This notion is supported by Adokh and Rafiee (2016), who emphasize that dynamic assessment processes help teachers adapt to classroom variability and student needs. These processes require a mastery of problem-solving techniques to balance the pedagogical demands placed on teachers. As such, understanding the nature of these skills and the factors influencing their development is critical for enhancing the effectiveness of EFL instruction in Iran (Adokh & Rafiee, 2016).

Research has highlighted several factors that impact the development of problem-solving skills among EFL teachers. For example, Aliakbari and Ghasemi (2021) explore the association between teachers' identity styles and their professional commitment, suggesting that a strong sense of identity can bolster a teacher's capacity to navigate classroom challenges (Aliakbari & Ghasemi, 2021). Similarly, Ahmed and Akyildiz (2022) focus on digital literacy, asserting that teachers who are proficient in technology tend to exhibit better problem-solving abilities, especially in adapting their teaching methods to suit digital learning environments (Ahmed & Akyildiz, 2022). The role of authentic materials in fostering problem-solving skills has also been explored by Akbari and Razavi (2015), who argue that such materials provide teachers with real-world contexts in which to apply their skills, thus enhancing their adaptability and effectiveness (Akbari & Razavi, 2015).

In addition to identity and digital literacy, teacher self-efficacy and emotional resilience play crucial roles in the development of problem-solving skills. Ayatollahi, Nemati, and Khaiyali (2022) explore the concept of teacher burnout, noting that educators who maintain high levels of emotional

resilience are better equipped to manage classroom stressors and implement effective problem-solving strategies. This is further supported by Aydın and Arslan (2022), who discuss the importance of teacher mentoring in helping novice teachers develop the necessary skills to navigate the challenges of the EFL classroom. The mentoring process not only supports the development of pedagogical skills but also fosters the emotional and psychological resilience needed to solve classroom problems effectively (Aydın & Arslan, 2022).

Despite the critical importance of problem-solving skills in EFL instruction, Iranian EFL teachers often face systemic barriers that hinder their professional development in this area. As Baniasad-Azad, Tavakoli, and Ketabi (2016) highlight, EFL teacher education programs in Iran frequently fail to engage teachers in meaningful professional development activities that focus on problem-solving (Baniasad-Azad et al., 2016). This lack of emphasis on practical problem-solving strategies leaves many teachers ill-equipped to handle the dynamic challenges of the classroom, particularly in environments where student engagement and motivation may be low. Additionally, the micropolitical dynamics within schools, as described by Chahkandi, Rasekh, and Tavakoli (2016), further complicate the ability of teachers to address classroom issues, as they must navigate institutional constraints and conflicting priorities (Chahkandi et al., 2016).

The importance of addressing these challenges is underscored by the findings of Alimorad and Tajgozari (2016), who compare Iranian high school teachers' and students' perceptions of effective English teaching. Their research reveals a disconnect between student expectations and teacher practices, particularly in relation to problem-solving strategies (Alimorad & Tajgozari, 2016). This discrepancy highlights the need for teachers to develop more nuanced problem-solving skills that align with student needs and expectations. As Ameri (2022) suggests, non-native teachers often face additional challenges in meeting these expectations, as their perceptions of teaching quality may differ from those of their students (Ameri, 2022).

Moreover, the concept of problem-solving is not limited to the classroom alone. Teachers' engagement in professional development activities and their ability to reflect on their practices are critical components of effective problem-solving. As Ameri (2022) notes, the alignment of teacher perceptions with observer evaluations plays a crucial role in shaping teaching quality and, by extension, problem-solving efficacy (Ameri, 2022). Similarly, Aghaei et al.

(2020) stress the importance of continuous professional development in helping teachers refine their problem-solving strategies. Without opportunities for reflection and growth, teachers may struggle to adapt to the evolving demands of the EFL classroom (Aghaei et al., 2020).

While problem-solving skills are essential for all teachers, there are notable differences in how these skills are utilized based on gender and teaching experience. Research by Ayalew, Woldemariam, and Alemu (2022) on teacher stress and coping strategies suggests that female teachers may be more likely to adopt collaborative problem-solving approaches, particularly in high-stress environments (Ayalew et al., 2022). This aligns with findings from Arifani et al. (2018), who emphasize the importance of mentoring programs in supporting female teachers as they navigate the challenges of the EFL classroom (Arifani et al., 2018). Additionally, Asgharheidari and Tahriri (2015) highlight the role of critical thinking in problem-solving, suggesting that experienced teachers may be more adept at applying these skills due to their accumulated knowledge and expertise (Asgharheidari & Tahriri, 2015).

However, novice teachers are not without their strengths. As highlighted by Anjum (2021), novice teachers often bring fresh perspectives and innovative approaches to problem-solving, particularly in relation to critical pedagogy. This suggests that while experienced teachers may have the advantage of expertise, novice teachers can contribute valuable insights into problem-solving through their willingness to experiment with new methods. This dynamic interplay between experience and innovation underscores the importance of fostering a collaborative teaching environment in which both novice and experienced teachers can share their problem-solving strategies (Anjum, 2021).

In conclusion, the problem-solving skills of Iranian EFL teachers are shaped by a complex interplay of factors, including identity, digital literacy, emotional resilience, and professional development opportunities. This study aims to explore the problem-solving skills utilized by Iranian EFL teachers, particularly how these skills are influenced by factors such as gender and teaching experience.

2. Methods and Materials

2.1. Design/Settings

This study had a mixed-methods approach in order to investigate the problem-solving skills among Iranian EFL teachers. The design of the study was an exploratory sequential mixed-methods which consisted of two phases: 1)

Qualitative phase comprising a semi-structured interview. The data acquired in qualitative study comprises participants' experiences, perceptions, and behavior. In line with that, this study was conducted to examine the teachers' challenges encountered in teaching English and strategies applied by the teachers to overcome those challenges, 2) Quantitative phase which aimed at confirming the qualitative phase via a self-made questionnaire.

This research was conducted in Hormozgan province. It is located at the most south if Iran. One of the advantages of the institute educational systems, is that the major approach in these centers is founded upon communication in L2, which in its own terms, decreases some sorts of problems during the class and increases some others. Another significant feature for English institutes (education outside school), which might decrease some order problems in class, is that these systems are, opposite school systems, optional and those who enroll in these classes, have more intentions and purposes for learning (which might not be the same about some courses of school which are obligatory and should be passed). By this, we mean that the results of present study might be more reasonably and acceptably generalizable to institute education, rather than school education.

2.2. Qualitative Phase

2.2.1. Participants

The participants in this phase were 30 teachers of English as a foreign language (15 males and 15 females) from four private language institutes in Hormozgan Province, Iran during the academic year 2022-2023. All participants were Iranian and their native language was Persian and shared nearly the same socio-economic background.

For the purposes of the study, only teachers who taught general English in different institutes were selected. The institute syllabus and term designs totally included 24 levels. Therefore, the participants were selected from a range of novice to experienced teachers who taught at a wide range of English levels. The participant teachers of the study were also from different age ranges in order to find out the entire possible problem-solving skills among them. Therefore, the sampling method was non-probability or purposive sampling.

2.2.2. Instruments

To elicit the various problem-solving skills and to satisfy the requirements of the qualitative nature of this phase of the study, a semi-structured interview was designed and conducted with the participants. The open-ended interview items were inspired and prepared considering a wide review over the literature on the concept of problem-solving. The prepared interview items were then discussed with three experts in the field. After the revisions, the final version of the interview was prepared for this phase of the study.

2.2.3. Data Collection Procedures

In collecting the data, the researcher used semi-structured interviews. The researcher conducted a face-to-face semi-structured interview with the teachers. The interview sessions with the teachers took approximately thirty minutes. Persian language was used in interviewing the participants.

2.2.4. Data Analysis Procedures

The interview transcripts were read and reviewed a couple of times for organizing and familiarizing the data. Then, the transcripts were imported to MAXQDA software to analyze the data and to finalize the categories and themes.

2.3. The Quantitative Phase

The quantitative phase was conducted as an endorsement of the findings gathered through the qualitative phase of the study. To check the generalizability of the qualitative findings to a larger and more comparable population, a questionnaire was constructed according to the categories and themes extracted from the first phase. The researcher-constructed questionnaire was piloted and validated before being assigned to the larger population.

2.3.1. Participants

200 EFL teachers were chosen according to availability at English language institutes in Hormozgan Province.

2.3.2. Instruments

The validated questionnaire of the previous phase was utilized as the instrument of the main study. The problem-solving questionnaire is designed to measure some constructs; namely,

1. Setting clear expectations

2. Establishing a positive learning environment
3. Active listening
4. Positive Reinforcement
5. Managing Behavior
6. Collaborating with Parents

The questionnaire consisted of 25 items including all positive and declarative statements. It is based on a 5-point Likert scale from Strongly Agree to Strongly Disagree. The interview scale consists of 6 dimensions and approaches.

2.3.3. Procedure

The collected data was analyzed by using statistical package for social sciences (SPSS) (Version 20.0). The total score that could be obtained from the scale was between 25 and 125 points. In order to determine the average total point obtained from inventory and categories, descriptive statistical methods were used. In order to determine whether data is normally distributed, Kolmogorov-Smirnov analysis was run.

Ultimately, in order to attain the purpose of the study which is designing a model of problem solving skills for Iranian EFL teachers, Structural Equation Modeling (SEM) was used through a statistical software package called LISREL.

3. Findings and Results

Based on teachers' comments, English teachers play an important role in the lives of their students. They are responsible for not only teaching them the English language, but also helping them to develop the skills they need to succeed in school, institute and in life. Problems can arise in the classroom for a variety of reasons. Students may be struggling academically, they may be having behavioral issues, or they may simply be feeling overwhelmed. Whatever the reason, it is important for English teachers to be able to solve problems effectively.

The result of the qualitative phase was the six categories which later formed and turned into the questionnaire.

The present study was designed in order to achieve the following three objectives. First; it explored the problem-solving skills applied by Iranian EFL teachers. Second; it investigated any significant differences between the problem-solving skills (PSSQ) applied by male and female Iranian EFL teachers. And third; it probed any significant differences between the novice and experienced EFL teachers in terms of their use of problem-solving skills.

3.1. Exploring First Research Question

What are the problem-solving skills applied by Iranian EFL teachers?

Table 1 shows the descriptive statistics for the six components of PSSQ. The results showed that Iranian EFL

teachers had the highest mean on active listening ($M = 2.61$). This was followed by positive reinforcement, and managing behavior ($M = 2.59$). They showed the lowest means on establishing a positive learning environment ($M = 2.41$), and collaborating with parents ($M = 2.40$).

Table 1

Descriptive Statistics for Components of Problem Solving Skills Questionnaire

Variable	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Active	200	0	5	2.61	1.030	1.061
Reinforce	200	0	5	2.59	1.051	1.104
Behavior	200	0	5	2.59	1.017	1.034
Setting	200	0	5	2.46	.925	.855
Establishing	200	0	5	2.41	.887	.787
Collaborate	200	0	4	2.40	.780	.609

3.2. Exploring Second Research Question

Are there any differences in male and female EFL teachers' selection of problem-solving skills?

The first null-hypothesis stated that there were not any significant differences between male and female EFL teachers' selection of problem-solving skills. Multivariate Analysis of Variances (MANOVA) was run to compare the male, and female EFL teachers' selection of problem solving skills. Before discussing the results, the assumptions related to MANOVA; i.e. normality, homogeneity of variances of groups, and homogeneity of covariance matrices will be checked.

The results showed that the skewness and kurtosis indices were within the ranges of ± 2 ; hence normality of the present data. The criteria of ± 2 were suggested by Bachman (2005), Bae and Bachman (2010) and George and Mallery (2020). It should also be noted that Zhu et al, 2019; suggested the criteria of ± 3 . However, Watkins (2021) suggested different criteria for skewness and kurtosis. He believed that skewness values should be less than ± 2 ; while kurtosis indices should be evaluated against the criteria of ± 7 . It should be noted that the normality indices confirm the normal distribution of the

variables. The results of Levene's test indicated that the assumption of homogeneity of variances was retained on setting clear expectations ($F(1, 198) = 1.48, p > .05$), establishing a positive learning environment ($F(1, 198) = .043, p > .05$), active listening ($F(1, 198) = 1.14, p > .05$), positive reinforcement ($F(1, 198) = .026, p > .05$), and managing behavior ($F(1, 198) = 2.57, p > .05$). However, it was violated on collaborating with parents ($F(1, 198) = 6.77, p < .05$). There is no need to worry about the violation of this assumption. As noted by experts, if the groups enjoy equal sample sizes, as is the case in this study, the significant results of the Levene's test can be ignored. Finally, the results of Box's M test (Box's $M = 30.56, p > .001$) indicated that the assumption of homogeneity of covariance matrices was retained. It should be noted that the results of the reported at .001 levels.

The main results of MANOVA will be discussed next. Table 2 shows the results of MANOVA. The results ($F(6, 193) = 15.12, p < .05$, partial $\eta^2 = .320$ representing a large effect size) indicated that there was a significant difference between male and female teachers' overall means on PSSQ. Thus; the first null-hypothesis as "there were not any significant differences in male and female's selection of problem-solving skills" was rejected.

Table 2

Multivariate Tests for Internship Modules by Gender

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.957	711.302	6	.000	.957
	Wilks' Lambda	.043	711.302	6	.000	.957
	Hotelling's Trace	22.113	711.302	6	.000	.957
	Roy's Largest Root	22.113	711.302	6	.000	.957

Gender	Pillai's Trace	.320	15.122	6	193	.000	.320
	Wilks' Lambda	.680	15.122	6	193	.000	.320
	Hotelling's Trace	.470	15.122	6	193	.000	.320
	Roy's Largest Root	.470	15.122	6	193	.000	.320

Table 3 shows the male and female teachers' means on six components of PSSQ. The results indicated that female had higher means than the male teachers on six components of PSSQ. These results will be discussed in detail when reporting the results of the Between-Subject Effects (Table 4). Based on the results shown in Table 4.10 it can be concluded that;

A: The female EFL teachers ($M = 2.81$) had a significantly higher mean on setting clear expectations than

male teachers ($M = 2.11$) ($F(1, 198) = 33.84, p < .05$, partial $\eta^2 = .146$ representing a large effect size).

B: The female EFL teachers ($M = 2.70$) had a significantly higher mean on establishing a positive learning environment than male teachers ($M = 2.13$) ($F(1, 198) = 22.90, p < .05$, partial $\eta^2 = .104$ representing a moderate effect size).

Table 3

Descriptive Statistics for Internship Modules by Gender

Dependent Variable	Gender	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Setting	Male	2.110	.086	1.941	2.279
	Female	2.815	.086	2.646	2.984
Establishing	Male	2.130	.084	1.964	2.296
	Female	2.700	.084	2.534	2.866
Active	Male	2.155	.093	1.972	2.338
	Female	3.060	.093	2.877	3.243
Reinforce	Male	2.200	.098	2.007	2.393
	Female	2.988	.098	2.795	3.180
Behavior	Male	2.213	.095	2.026	2.399
	Female	2.965	.095	2.778	3.152
Collaborate	Male	2.083	.071	1.942	2.223
	Female	2.715	.071	2.574	2.856

C: The female EFL teachers ($M = 3.06$) had a significantly higher mean on active listening than male teachers ($M = 2.15$) ($F(1, 198) = 47.66, p < .05$, partial $\eta^2 = .194$ representing a large effect size).

D: The female EFL teachers ($M = 2.98$) had a significantly higher mean on positive reinforcement than male teachers ($M = 2.20$) ($F(1, 198) = 32.54, p < .05$, partial $\eta^2 = .141$ representing a large effect size).

Table 4

Tests of Between-Subjects Effects for Internship Modules by Gender

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender	Setting	24.851	1	24.851	33.878	.000	.146
	Establishing	16.245	1	16.245	22.904	.000	.104
	Active	40.951	1	40.951	47.665	.000	.194
	Reinforce	31.008	1	31.008	32.541	.000	.141
	Behavior	28.313	1	28.313	31.574	.000	.138
	Collaborate	20.003	1	20.003	39.161	.000	.165
Error	Setting	145.243	198	.734			
	Establishing	140.435	198	.709			
	Active	170.113	198	.859			
	Reinforce	188.672	198	.953			

	Behavior	177.549	198	.897
	Collaborate	101.134	198	.511
Total	Setting	1382.875	200	
	Establishing	1323.125	200	
	Active	1570.875	200	
	Reinforce	1565.188	200	
	Behavior	1546.188	200	
	Collaborate	1271.938	200	

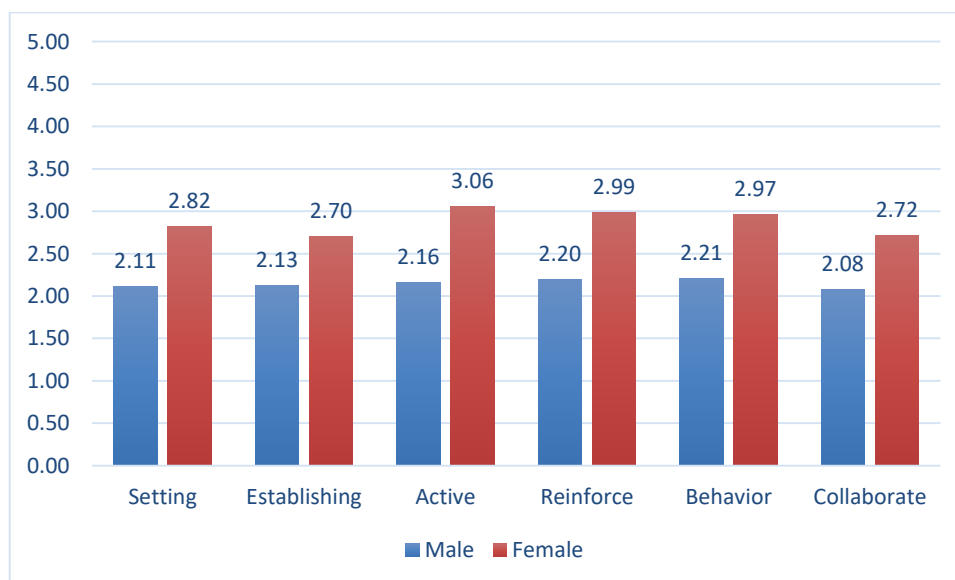
E: The female EFL teachers ($M = 2.96$) had a significantly higher mean on managing behavior than male teachers ($M = 2.21$) ($F(1, 198) = 31.57, p < .05$, partial $\eta^2 = .138$ representing a moderate effect size).

F: And finally; the female EFL teachers ($M = 2.71$) had a significantly higher mean on collaborating with parents than

male teachers ($M = 2.08$) ($F(1, 198) = 39.16, p < .05$, partial $\eta^2 = .165$ representing a large effect size). Figure 1 shows the male and female teachers' means on six components of PSSQ.

Figure 1

Means on Components of Problem Solving by Gender



3.3. Exploring Third Research Question

Are there any differences in novice and experienced teachers' selection of problem solving skills?

The second null-hypothesis stated that there were not any significant differences between experienced and novice EFL teachers' selection of problem-solving skills. Multivariate Analysis of Variances (MANOVA) was run to compare the experienced, and novice EFL teachers' selection of problem solving skills. Before discussing the results, the assumptions related to MANOVA; i.e. homogeneity of variances of groups, and homogeneity of covariance matrices will be checked. It is worth mentioning that the assumption of

normality was checked in based on their gender and teaching experience.

The results of Levene's test indicated that the assumption of homogeneity of variances was retained on setting clear expectations ($F(1, 198) = 1.26, p > .05$), establishing a positive learning environment ($F(1, 198) = 1.80, p > .05$), active listening ($F(1, 198) = .290, p > .05$), positive reinforcement ($F(1, 198) = .099, p > .05$), and managing behavior ($F(1, 198) = .392, p > .05$). However, it was violated on collaborating with parents ($F(1, 198) = 4.43, p < .05$). There is no need to worry about the violation of this assumption. As noted by, if the groups enjoy equal sample sizes, as is the case in this study, the significant results of the Levene's test can be ignored. Finally; The results of Box's

M test (Box's $M = 20.82$, $p > .001$) indicated that the assumption of homogeneity of covariance matrices was retained. It should be noted that the results of the reported at .001 levels.

The main results of MANOVA will be discussed next. Table 10 shows the results of MANOVA. The results ($F(6,$

$193) = 15.17$, $p < .05$, partial $\eta^2 = .321$ representing a large effect size) indicated that there was a significant difference between experienced and novice teachers' overall means on PSSQ. Thus; the second null-hypothesis as "there were not any significant differences in experienced and novice EFL teachers' selection of problem-solving skills" was rejected.

Table 5

Multivariate Tests for Internship Modules by Teaching Experience

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.955	688.778	6	193	.000	.955
	Wilks' Lambda	.045	688.778	6	193	.000	.955
	Hotelling's Trace	21.413	688.778	6	193	.000	.955
	Roy's Largest Root	21.413	688.778	6	193	.000	.955
Teaching experience	Pillai's Trace	.321	15.178	6	193	.000	.321
	Wilks' Lambda	.679	15.178	6	193	.000	.321
	Hotelling's Trace	.472	15.178	6	193	.000	.321
	Roy's Largest Root	.472	15.178	6	193	.000	.321

Table 5 shows the experienced and novice teachers' means on six components of PSSQ. The results indicated that novice had higher means than the experienced teachers on six components of PSSQ. These results will be discussed in detail when reporting the results of the Between-Subject Effects (Table 7). Based on the results shown in Table 7 it can be concluded that;

A: The novice EFL teachers ($M = 2.83$) had a significantly higher mean on setting clear expectations than

experienced teachers ($M = 2.09$) ($F(1, 198) = 38.60$, $p < .05$, partial $\eta^2 = .163$ representing a large effect size).

B: The novice EFL teachers ($M = 2.75$) had a significantly higher mean on establishing a positive learning environment than experienced teachers ($M = 2.07$) ($F(1, 198) = 33.68$, $p < .05$, partial $\eta^2 = .145$ representing a large effect size).

Table 6

Descriptive Statistics for Internship Modules by Teaching Experience

Dependent Variable	Teaching experience	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Setting	Novice	2.835	.085	2.668	3.002
	Experienced	2.090	.085	1.923	2.257
Establishing	Novice	2.753	.082	2.590	2.915
	Experienced	2.078	.082	1.915	2.240
Active	Novice	2.978	.096	2.788	3.167
	Experienced	2.238	.096	2.048	2.427
Reinforce	Novice	3.038	.095	2.849	3.226
	Experienced	2.150	.095	1.962	2.338
Behavior	Novice	3.013	.093	2.830	3.195
	Experienced	2.165	.093	1.982	2.348
Collaborate	Novice	2.618	.075	2.469	2.766
	Experienced	2.180	.075	2.032	2.328

C: The novice EFL teachers ($M = 2.97$) had a significantly higher mean on active listening than experienced teachers ($M = 2.23$) ($F(1, 198) = 29.51$, $p < .05$, partial $\eta^2 = .130$ representing a moderate effect size).

D: The novice EFL teachers ($M = 3.03$) had a significantly higher mean on positive reinforcement than experienced teachers ($M = 2.15$) ($F(1, 198) = 43.25$, $p < .05$, partial $\eta^2 = .179$ representing a large effect size).

Table 7

Tests of Between-Subjects Effects for Internship Modules by Teaching Experience

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Teaching experience	Setting	27.751	1	27.751	38.602	.000	.163
	Establishing	22.781	1	22.781	33.687	.000	.145
	Active	27.380	1	27.380	29.514	.000	.130
	Reinforce	39.383	1	39.383	43.250	.000	.179
	Behavior	35.913	1	35.913	41.840	.000	.174
	Collaborate	9.570	1	9.570	16.985	.000	.079
Error	Setting	142.342	198	.719			
	Establishing	133.899	198	.676			
	Active	183.684	198	.928			
	Reinforce	180.297	198	.911			
	Behavior	169.949	198	.858			
	Collaborate	111.567	198	.563			
Total	Setting	1382.875	200				
	Establishing	1323.125	200				
	Active	1570.875	200				
	Reinforce	1565.188	200				
	Behavior	1546.188	200				
	Collaborate	1271.938	200				

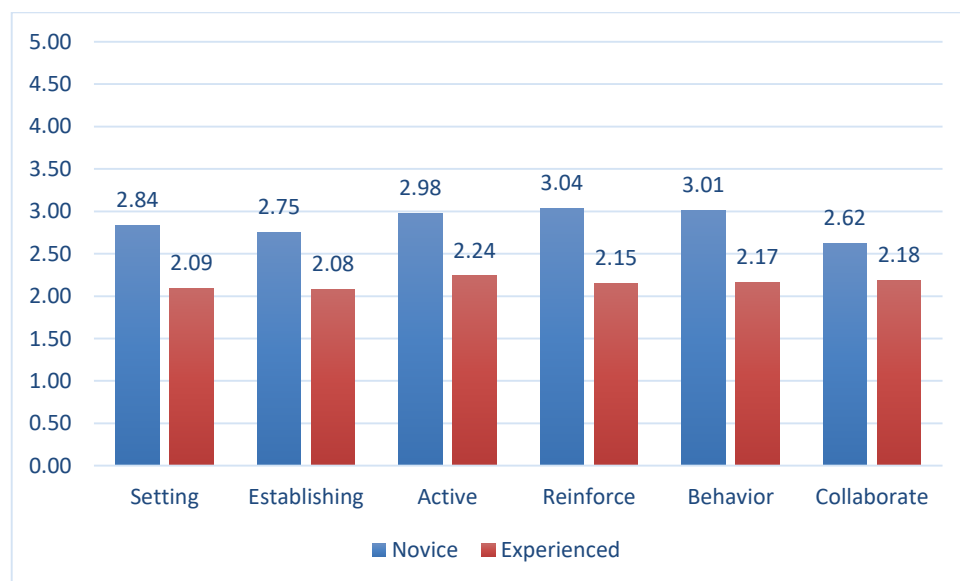
E: The novice EFL teachers ($M = 3.01$) had a significantly higher mean on managing behavior than experienced teachers ($M = 2.16$) ($F(1, 198) = 41.84$, $p < .05$, partial $\eta^2 = .174$ representing a large effect size).

F: And finally; the novice EFL teachers ($M = 2.61$) had a significantly higher mean on collaborating with parents than

experienced teachers ($M = 2.18$) ($F(1, 198) = 316.98$, $p < .05$, partial $\eta^2 = .079$ representing a moderate effect size). [Figure 2](#) shows the experienced and novice teachers' means on six components of PSSQ.

Figure 2

A Model for Developing Adjunct Faculty Collaboration at Islamic Azad University



4. Discussion and Conclusion

The present study aimed to investigate the problem-solving skills of Iranian EFL teachers, focusing on the impact of gender and teaching experience on these skills. The results revealed significant differences in the problem-solving approaches of male and female teachers, as well as novice and experienced teachers. Female teachers scored higher across all six components of problem-solving skills, including active listening, positive reinforcement, managing behavior, setting clear expectations, and collaborating with parents. Similarly, novice teachers outperformed experienced teachers in these components, challenging conventional assumptions that experience correlates with better problem-solving skills.

These findings align with earlier research emphasizing the importance of problem-solving skills in EFL teaching. For instance, the study by Abdulhay (2023) also highlighted that EFL teachers often face complex classroom dynamics that require rapid and effective problem-solving (Abdulhay, 2023). The higher scores of female teachers in this study could be explained by their greater tendency to engage in collaborative and communicative problem-solving strategies, as suggested by Ayalew, Woldemariam, and Alemu (2022). Female teachers might prioritize building positive relationships with students and parents, which aligns with their higher scores in setting clear expectations and collaborating with parents (Ayalew et al., 2022). This is further supported by Aghaei, Bavali, and Behjat's (2020) research, which links teachers' identity and role perception to their ability to manage classroom challenges effectively (Aghaei et al., 2020).

The higher performance of novice teachers compared to their experienced counterparts is noteworthy, as it contradicts traditional expectations. Novice teachers' recent exposure to professional training and educational theory might account for their superior problem-solving abilities. Anjum (2021) argues that novice teachers often bring innovative perspectives and are more open to adopting new problem-solving techniques, which could explain their success in this study (Anjum, 2021). Moreover, as Akbari and Razavi (2015) highlight, the use of authentic materials and recent pedagogical approaches may better equip novice teachers to navigate classroom challenges compared to more experienced teachers who rely on traditional methods (Akbari & Razavi, 2015).

The significant differences in gender align with research from Aydin and Arslan (2022), who discuss the role of mentoring in helping female teachers develop classroom management and problem-solving skills. Female teachers may benefit more from collaborative environments, as evidenced by their higher scores in positive reinforcement and managing behavior (Aydin & Arslan, 2022). This finding also correlates with Adokh and Rafiee's (2016) examination of dynamic assessment processes, which suggests that flexible and adaptive strategies are more commonly employed by female educators (Adokh & Rafiee, 2016).

In contrast, experienced teachers may rely on routine methods that do not necessarily align with modern educational challenges. According to Baniasad-Azad, Tavakoli, and Ketabi (2016), professional development programs in Iran often fail to engage experienced teachers in reflective practices that could enhance their problem-solving skills (Baniasad-Azad et al., 2016). The lower scores of experienced teachers in this study may be a reflection of this gap, as they may not have received the necessary ongoing training to update their classroom management strategies. This gap between professional development and practical application has also been noted by Aliakbari and Ghasemi (2021), who point to the importance of identity and self-reflection in the continuous development of teachers' problem-solving capabilities (Aliakbari & Ghasemi, 2021).

Interestingly, novice teachers scored higher in managing behavior, which aligns with research by Aghaei et al. (2020) that emphasizes the importance of modern, student-centered approaches. Novice teachers may be more willing to experiment with classroom management techniques, such as positive reinforcement and active listening, which were areas where they outperformed experienced teachers. The results also align with findings by Ameri (2022), who noted that non-native teachers, often newer to the field, could adapt more readily to student needs, thereby fostering better classroom management (Ameri, 2022).

In examining the relationship between gender and problem-solving, this study reinforces the findings of Ahmed and Akyildiz (2022), who highlighted the role of digital literacy in teaching effectiveness. Female teachers, in particular, may be more adept at utilizing digital tools for problem-solving, as they scored higher in areas requiring communication and collaboration. Digital literacy has been shown to enhance teachers' ability to manage complex classroom situations (Ahmed & Akyildiz, 2022), which may

explain the higher scores among female teachers in problem-solving components that require these skills.

Furthermore, novice teachers' higher performance in problem-solving challenges traditional beliefs about the value of experience in teaching. According to Ayalew et al. (2022), younger teachers, or those with less experience, often exhibit higher stress tolerance and adaptability, qualities that enhance their problem-solving capabilities. These findings suggest that professional development for experienced teachers should focus more on updating their problem-solving strategies, particularly in areas such as active listening and collaborative problem-solving, where novice teachers excelled.

The implications of these findings extend to the broader educational context. As noted by Bayaa and Samir (2020), the use of multisensory teaching approaches can enhance problem-solving skills by providing teachers with a range of tools to manage diverse classroom challenges. This may be particularly relevant for female teachers and novices, who demonstrated greater flexibility and adaptability in their problem-solving approaches. Additionally, the findings resonate with the work of Asgharheidari and Tahriri (2015), who stress the importance of critical thinking in developing problem-solving skills among teachers. Female and novice teachers in this study may have benefited from more recent training in critical thinking and student engagement strategies, which helped them outperform their male and experienced counterparts (Asgharheidari & Tahriri, 2015).

The observed differences in problem-solving skills between male and female teachers, as well as between novice and experienced teachers, raise important questions about the role of ongoing professional development. As noted by Chahkandi, Rasekh, and Tavakoli (2016), professional development opportunities in Iran are often limited, particularly for experienced teachers. This lack of access to updated training could explain why experienced teachers in this study performed worse than their novice counterparts in problem-solving (Chahkandi et al., 2016). Similarly, the study by Aghaei et al. (2020) found that the identity and role perceptions of teachers play a crucial role in their ability to adopt new strategies, suggesting that more experienced teachers may be more resistant to change (Aghaei et al., 2020).

One of the main limitations of this study is the geographical scope, as it focused solely on Iranian EFL teachers from Hormozgan Province. The findings may not be generalizable to other regions of Iran or to other countries with different educational contexts. Additionally, the study

relied on self-reported data, which may introduce bias, as participants might overestimate or underestimate their problem-solving abilities. The cross-sectional nature of the research also limits the ability to draw conclusions about the development of problem-solving skills over time. Furthermore, the study did not account for variables such as teaching style, institutional support, or classroom size, which could also impact problem-solving abilities.

Future research should aim to expand the geographical scope of the study to include a more diverse range of Iranian teachers from different regions. Longitudinal studies would be beneficial in tracking the development of problem-solving skills over time, particularly to observe how novice teachers adapt as they gain experience. Research could also explore how institutional factors, such as access to resources and professional development opportunities, influence the problem-solving abilities of teachers. Furthermore, future studies should consider exploring the specific teaching methods that contribute to higher problem-solving scores among female and novice teachers to develop targeted training programs.

Educational institutions should prioritize ongoing professional development for teachers, particularly experienced educators who may need to update their problem-solving strategies. This could involve workshops that focus on active listening, collaborative problem-solving, and student engagement techniques. Additionally, mentorship programs could pair novice teachers with experienced educators to foster the exchange of innovative approaches and traditional wisdom. Schools should also invest in digital literacy training for all teachers, as integrating technology into the classroom has been shown to enhance problem-solving skills. Finally, creating a collaborative teaching environment where teachers can share their experiences and strategies may help improve overall classroom management and problem-solving outcomes.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

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Declaration of Interest

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All procedures performed in studies involving human participants were under the ethical standards of the institutional and, or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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