Research Paper

The Mediating Effect of EFL Teachers' Creativity in Relationship Between Their Reflective Practices and their Professional Development

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Abstract

Teacher professional development (TPD) is a kind of continuing education effort that can strengthen teachers' skills and, in turn, boost students' learning outcomes. Teachers' creativity and reflective practice also have key roles in teachers' daily practice. Therefore, this study aimed to investigate the mediating role of English as a foreign language (EFL) teachers' creativity in the relationship between their reflective practices and their professional development (PD). The participants of the study consisted of 150 Iranian EFL teachers aged between 30 and 41 years old with 1–up to 15 years of teaching experience. Three different questionnaires were used to collect the relevant data. The collected raw data were analyzed with SPSS and Partial Least Squares (PLS) software. The results of statistical analyses, namely Spearman correlation, and semi structural equation modeling (SEM) indicated that there were statistically significant relationships between teachers' reflective practice, teacher's creativity, and their PD. In particular, the results revealed that teachers' creativity can mediate the relationships between teachers' reflective practice and their PD. The obtained results are discussed in the light of the literature. The results also have a number of implications for the main stakeholders including administrators and EFL teachers.

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1 Introduction

Today, second language teaching is considered as a dynamic process that requires the teacher PD in order to overcome the wide range of inevitable social, psychological, and scientific challenges in the current educational context. The PD, in education, refers to teacher training programs, activities, and educational experiences with the aim of training knowledgeable teachers who are able to educate competent students (Christoforidou & Kyriakides, 2021). This context-sensitive process can improve teachers' pedagogical knowledge through different ways such as formal seminars and workshops or informal observations and discussions among colleagues (Sancar et al., 2021). Furthermore, the role of EFL teachers' creativity has been highlighted during the last decades and it is commonly acknowledged that teachers play a critical role in fostering creativity in their students. The concept of reflective practice has also been gaining momentum as a beneficial factor in the development of teachers' creativity (LaPrade et al., 2014; Osterman, 1990). Dewey (1931) defined the term reflection as "An active, persistent, and careful consideration of a belief or supposed form of knowledge, of the grounds that support that knowledge, and the further

conclusions to which that knowledge leads" (p.9). To put it another way, it is the conscious consideration of teachers that allows them to take charge of their own learning through the evaluation and application of their information to reach a decision regarding an issue or circumstance. When engaging in reflective practice, teachers monitor how students respond and perform when dealing with a specific theory or method in the classroom. They then compile all experiences to adapt or alter the theory that was chosen (Hartmann et al., 2021). During the reflection process, teachers should connect educational theory with teaching practice and observe students' reactions to find a suitable theory and/or technique. Reflective practice is an interactive process between instructors and students, and reflective teachers promote reflection as a crucial tool in their classrooms.

Although the importance of the three variables of creativity, PD, and reflection have been discussed in previous studies, the relationship between reflective practice and creativity, creativity and PD, reflective practice and PD, and the mediating role of creativity have received scant attention. As such, a model (see Figure, 1) was proposed.
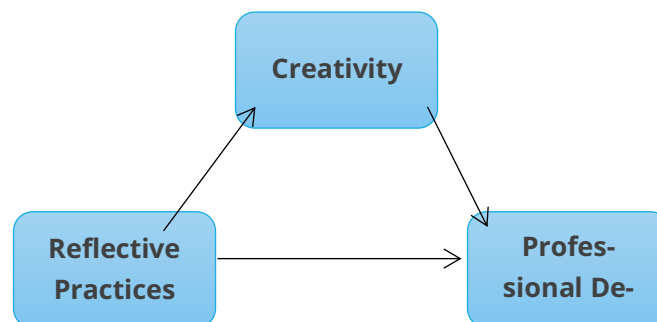

Figure 1. The Conceptual Model

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Based on the hypothesized model the following research questions were formulated:

Q1. Is there any significant relationship between EFL teachers' reflective practice and their PD?

Q2. Is there any significant relationship between EFL teachers' reflective practices and their creativity?

Q3. Is there any significant relationship between EFL teachers' creativity and their PD?

Q4. Does EFL teachers' creativity mediate the relationship between their reflective practice and PD?

2 Literature review

2.1 Teacher Professional Development

Based on the researchers' experience traditional approaches to PD for EFL teachers in Iran usually focus on short-term workshops and conferences with a supervisor lecturing in the front. In other words, teachers' development is controlled by external experts, and EFL teachers have a passive role in their PD activities, which are conducted regardless of EFL teachers' personal needs and wants. Traditional TPD programs ignore interaction among teachers, and teachers are only given access to instructional strategies and approaches in a monologic, top-down way by this chosen expert. That is why there is always a need for teacher PD in the teaching context to overcome educational, sociocultural, and technological challenges.

Teacher PD, generally, refers to the continuous dynamic formal or informal processes and educational programs that help teachers improve their pedagogical skills (Li, 2022). Therefore, in the present study, teacher PD is defined as an ongoing dynamic learning process in which teachers, as active agents, are involved with lifelong attempts to discover different teaching approaches that can meet the learning needs of their students. Another important point about PD in the present study is that PD makes teachers more responsible for reflecting on their teaching practices to learn how to learn by conducting research individually or collaboratively.

Novice teachers face challenges in the first year of their teaching. They experience inconsistencies between what they learn about teaching training and what happens in the real class. These challenges may be related to various reasons, such as classroom management, lesson planning, the level of education, lesson delivery, classification management, and the development of identity. There are challenges and incompatibilities during the first years of teaching. In this regard, the importance of EFL teachers' PD as a continuous dynamic process that enables teachers to improve their pedagogical skills has been highlighted during the last few years. Indeed, teachers' PD and well-being have been considered as necessary factors in increasing the quality of teaching and learning (Gore & Zeichner, 1991). The significance of EFL teachers' PD has motivated teacher educators to make use of various formal and informal self-initiated teacher PD programs to foster teachers' knowledge in teacher education programs.

One aspect of teacher quality that is impacted by reflective practice is his or her PD, which is often defined as how a teacher learns particular knowledge and a set of skills within a specific context of a

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situation (Koellner & Jacobs, 2015). When teachers reflect on their teaching practices, their awareness of their teaching increases, and they can then unlearn the ineffective teaching methods, which may have undesirable effects on students' learning experience (Ciampa & Gallagher, 2015). Meierdirk (2017) has stated that pre-service teachers usually use reflection in order to improve their teaching in areas of classroom activities, lesson planning, behavioral management, and performance indicators. Alger (2006) gives an example of how reflective practice impacts pre-service teachers' classroom teaching and enhances the repertoire of their strategies when dealing with problems. After engaging in reflective practice, pre-service teachers in Alger's study were able to move away from a teacher-centered classroom to a more student-centered one. Generally, reflective practice allows pre-service and in-service teachers to stop for a moment to take a good look at their past teaching experiences. Through the means of self-observation, self-analysis, and self-evaluation, they can explore their experiences, discover "the truth" about themselves, and improve their professional life. In another research, Malmir and Mohammadi (2018) examined the effect of reflective teaching on teachers' professional success and the power of self-efficacy, and reflective teaching was reported as a predictor of teachers' professional success.

3 Teacher creativity

Creativity plays a crucial role in EFL teachers' development and learners' academic achievement and academic motivation (Xerri & Vassallo, 2016). Creativity is defined as the utilization of imaginative approaches to recombine familiar elements into new forms (Nunan, 2013). In the teaching context, this process makes learning more interesting (Craft, 2004). Second language teachers' creativity can be defined as their EFL/ESL ability to provide EFL/ESL learners with opportunities to use the target language in innovative ways (Ma, 2022). Although theoretically teacher creativity is defined as the interaction among teachers' aptitude, imagination, innovative ideas, and environment to create a novel concept, the present study aimed to consider EFL teachers' creativity from a more practical point of view as teachers' use of innovative methods, and techniques to use their full potential as reflective educators to improve their own autonomy, thoughtfulness and insight and their students' learning outcomes (Ghanizadeh & Jahedizadeh, 2016).

Jónsdóttir (2017) distinguishes between the two overlapping concepts of teaching for creativity and teaching creatively. While the former deals with applying teaching styles that center around the amelioration of creative thinking in learners, the latter refers to the application of innovative techniques and approaches with the aim of producing more efficacious and fascinating learning. Though these two concepts may appear to be distinct at first sight, there is a need to integrate them into our instructional endeavors to bring about more creative learning.

Creativity is a crucial characteristic of a professional EFL teacher, and it can be achieved by moving away from traditional pedagogy (Han & Abdrahim, 2023). The related studies show that teachers' creativity, which is necessary for EFL teachers' PD and EFL learners' language competence, is the result of the interaction between EFL teachers' personal features and the features of social context and teaching environment (Han & Abdrahim, 2023). The traditional approaches to PD, which are typically arranged by external agents and

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administrators, cannot meet these contextual needs and situational factors (Kırkgöz, 2013). Teachers' creativity can be enhanced through interactive workshops and seminars instead of traditional one-shot workshops in which EFL teachers are isolated from the mainstream of practices (Soodmand Afshar & Ghasemi, 2018). EFL teachers' participation in PD programs as an active member, which can increase their creativity, is a vital factor that has not been investigated sufficiently. Although, teachers have a limited perception and understanding of creativity, their creativity in the classroom may facilitate students' creative potential and promote changes in EFL teachers' knowledge and incorporation of new skills (Hosseini, 2010). Several studies (e.g., Czaja-Chudyba et al., 2018; Hosseini & Watt, 2010; Mishra et al., 2015; Mohammadifar & Tabatabaee-Yazdi, 2021; Yeh et al., 2011;) have shown the potential effect of PD programs on facilitating change in the creativity of both teachers and students. Therefore, investigating the various approaches to PD programs in order to increase EFL teachers' creativity is of great importance.

Previous studies on creativity highlight the crucial role played by teachers' creativity in shaping and nurturing students' creativity and independence (Ghonsooly & Raeesi, 2012; Benson, 2006). The theory of experiential language learning (Kolb et al., 1979) underscores the significance of experience and discovery in acquiring a second language. In this context, EFL teachers can enhance students' readiness for discovery learning by providing opportunities to foster creativity and independence. This is particularly essential since language learning relies more on automatic processing cycles than controlled mechanical ones, necessitating the teaching of creative skills and strategies to facilitate

experiential discovery-oriented learning. Consequently, learners are encouraged toward continuous independent learning. In this perspective, creativity should not only be seen as a means but also as a crucial objective in the development of foreign language curricula.

Additionally, Razdorskaya (2015), in a study, applied the Reflective and Creative Approach (RCA) to teaching medical students English. In this study, the dialectic relationship of reflection and creativity was probed. This study states that the reflective component is important in a creative educational context and both reflection and creativity are important preconditions for improving the effectiveness of teaching. Creative structures and reflexive structures interact with each other and may overlap in some cases. In conclusion, this study confirmed the expected effects of the approach by identifying the relationship between creativity expression, reflective culture components, and intercultural competence. The comprehensive implementation of RSA means adequate educational support for the creative development of the student's individuality.

4 Reflection practice

The roots of the term reflection are traced back to John Dewey (1859-1952). He argues that reflection is an essential part of teaching and learning and enables teachers to identify and solve problems (Farrell, 2013). Reflection practice is generally a process of thinking back on the individual's own experiences and activities. It can take place at varying degrees of awareness and modes of reflection which results in varying degrees of effectiveness (Sellheim & Weddle, 2015).

Teachers typically operate on "autopilot" and develop ritualized behaviors; however, through reflective practices,

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educators can cultivate the habit of reflection enabling them to take informed action. Accordingly, during the last decades, reflective practice has been considered a professional requirement for teaching a second language since it provides opportunities to re-evaluate and re-structure understanding and insight (Ghaye, 1998). Not only does reflection help teachers become better educators, but it also helps students become aware of their learning process. To understand their own responses to problems in the classroom, teachers engage in a constant cycle of self-observation and self-assessment (JozeTajareh & Rashtchi, 2019). Cunningham (2001) states that a key objective of reflective teaching is the ongoing observation and improvement of instructional practices. This objective can assist educators in reviving their classrooms and using the best instructional techniques for the given circumstance. Through reflective techniques, educators can develop new approaches to teaching (Kundu & Bej, 2022).

Teachers' reflective practice as a means of improving teaching activities is essential for both pre-service and in-service teachers. Widyaningrum et al. (2022) examined EFL teachers' critical reflective practice. The participants of the study consist of two in-service teachers, one of whom carries out reflective activities as part of her habits to determine her weaknesses and strengths, but for the other participant, only problematic aspects, such as learning materials or managing the classroom atmosphere were the focus of reflection. They collected data using a narrative questionnaire, which was analyzed using appraisal theory. Based on the findings both participants agreed that the reflective practice provides benefits to their PD and learning process. Also, both participants stated that consistent and

continuous reflective practices are the key to maximizing the positive impact of reflection.

In a study on teachers' reflective practice, Cadiz (2021) investigated how pre-service teachers plan, design, and evaluate their teaching strategies. To do so, 103 pre-service teachers were selected as the sample of the study, and survey questionnaires that assessed pre-service reflective practice and beliefs about their teaching practice were employed. The results highlighted the significance of adding reflective practice skills to teacher education programs. Griggs et al. (2018) investigated whether the development of reflective practice skills on a professional course influences the extent to which reflection becomes a part of their subsequent professional practice. The findings support the importance of teaching reflective practice in developing professional practice. They recommend varied and flexible strategies for teaching reflective techniques, introducing written and oral techniques, and individual and social reflection. Malmir and Mohammadi (2018) in their study examined the effect of reflective teaching on teachers' professional success. The results showed that the power of self-efficacy and reflective teaching as predictors of teachers' professional success showed EFL teachers' professional success and development can be predicted by both reflective teaching and self-efficacy. In another study, Cadiz (2021) introduced reflective practice as a means to see how pre-service teachers plan, design, and evaluate their teaching strategies. The results of this study highlight the significance of adding reflective practice skills to teacher education programs. Similarly, Pinnegar and Lay (2023) explored the effect of reflection on teacher and teacher-educator development. The findings revealed that reflective

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practices are important in teacher development. They found that a preservice teacher's strength increases with her level of reflection. In the same vein, Habtamu and Belay (2023) investigated the extent to which university EFL instructors view reflection practice and the extent their perspectives affected their reflective teaching. The findings showed that the teachers have an acceptable theoretical understanding of the basic concepts of reflection in teaching. Scholars seek to show that reflective practice must be taught in a selective, deliberate, and comprehensible manner (Gudeta, 2022).

5 Method

5.1 Design

To verify the research hypotheses, a quantitative correlational design, and SEM were utilized in the present study. We employed descriptive statistics to summarize sample characteristics, and inferential statistics to analyze relationships between the variables.

6 Participants

A total of 150 Iranian EFL teachers (which consists of 72 males, and 78 females) who teach general English in private language schools and high schools in various provinces of Iran were enrolled in this study. The teachers had varying levels of experience (4 to 12). Their educational degrees were M.A. (68 %), BA (27%), and Ph.D. (5%). The researchers used convenience sampling to select the participants for the study and assured them that their participation would be voluntary and anonymous. They were also told that they had the right to withdraw from the study anytime they wished.

7 Instruments

In the present study, the following instruments were employed.

8 Teaching Reflection Inventory

We employed the English language teaching reflection scale developed by Akbari et al. (2010). There are 29 items with five subscales namely practical reflection, cognitive reflection, affective reflection, metacognitive reflection, and critical reflection in the instrument. The questionnaire makes use of a 5-point Likert scale ranging from "never" to "always". The first subscale, practical reflection, consists of six items and involves activities such as sharing teaching-related issues with colleagues, observing other teachers' classes, or maintaining reflective journals to improve instruction. The second subscale, cognitive reflection, consists of six items and pertains to intentional efforts made by teachers to participate in PD by reading academic journals. The third subscale, affective reflection, comprises three items and focuses on teachers' endeavors to understand their students' backgrounds and solicit their opinions about different teaching tasks. The fourth subscale, metacognitive reflection, includes seven items and encompasses teachers' beliefs about teaching, critical evaluation of their performance, and interpretations of their behavior. Finally, the fifth subscale, critical reflection, has seven items and concerns teachers' awareness of socio-political factors affecting teaching and their impact on the classroom context. The reliability of the questionnaire computed using Cronbach's coefficient alpha was reported to be 0.90.

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9 Teacher Creativity Scale

Based on the taxonomy and guidelines suggested by Rhodes (1961) and Torrance (1974) together with the CFT index. Rhodes (1961) and Torrance (1974) reviewed numerous scholarly papers and identified contributing factors. They constructed the current scale using a simple procedure involving two steps: 1) Designing the test and 2) validation.

The researchers developed a questionnaire consisting of 62 items on 7 Likert-type dimensions and 5 scales. The dimensions included originality and elaboration, fluency and flexibility, person (teacher), press (environment) and materials, motivation, independent learning (autonomy), and brainstorming. At least seven items were developed for each dimension. The reliability of the dimensions showed that Cronbach's alpha coefficient of this questionnaire was higher than 0.9 for each of the dimensions, which indicates a high level of reliability for this measurement tool.

10 Professional Development Inventory

To explore the Iranian EFL teachers' current PD, Soodmand Afshar et al. (2018) developed a PD scale, and the levels of reliability and validity of the scale were found to be satisfactory. There are four subscales in the scale, and the third section of the questionnaire consists of 35 items using a 4-point Likert scale that included "not at all" to " Perfectly well. " The subscales include a) PD activity preferences, b) potential benefits of PD activities, c) actual benefits of PD activities, d) affective contributions of PD, and e) practical contributions of PD. The scale has a high-reliability index ($\alpha=0.91$) that indicates that it accurately measures the teachers' proficiency in various aspects of teaching.

11 Procedure

To recruit the required data, the researchers first gathered the target sampling through convenience sampling. Then they assured the participants about the anonymity and confidentiality of their personal information. Consequently, via email and accessible social networks, 150 questionnaires were distributed among the participants. First, 150 questionnaires were distributed via email attachment. Then the data was fed into SPSS 24. First, to gauge the normality of the data distribution, we used the Kolmogorov-Smirnov and Shapiro-Wilk test. Additionally, this research conducted Cronbach's alpha tests to determine if the responses from participants on the three questionnaires exhibited acceptable levels of internal consistency. These tests helped us to evaluate the reliability of our data rigorously. After that, the relationship between variables was investigated by conducting Spearman product-moment correlations. To evaluate whether the proposed conceptual model is suitable, this research used goodness-of-fit measures in a SEM analysis. To determine the statistical significance of indirect associations, this research employed a bootstrapping procedure, which is a data resampling technique that establishes confidence intervals. This method allows us to test the significance of indirect associations with greater certainty.

12 Data Analysis

SPSS statistic program and Smart PLS Software were used to evaluate the data. To analyze the results, in this section, the researchers sought if EFL teachers' creativity mediates the relationship between

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reflective practice and PD. The validity, reliability, normality, and descriptive statistics were used in this study and to answer all the research questions, the researchers used the PLS method.

13 Results

13.1 Preliminary Analyses

13.1.1 The evaluation of construct validity and reliability

Item loadings, Cronbach's alpha (α), composite reliability (CR), rho, and average variance extracted (AVE) were used to evaluate construct validity. Internal reliability (CR and α) and convergent validity (AVE) were assessed for each construct. According to Fornell and Larcker (1981), all factor loadings should be greater than 0.7. CR and α should be greater than 0.70 and AVE should be greater than 0.5 (Fornell & Larcker, 1981). Table 1 illustrates the findings of the validity and reliability tests. The factor loadings of all constructs were greater than 0.7, α and CR greater than 0.7, and AVE values greater than 0.5. Therefore, both reliability and construct validity were recognized.

Table 1

Evaluation of Construct Validity and Reliability.

	Scales	Loadings	Mean	SD	α	CR	AVE
Reflective Practice	R1	0.789	4.154	0.408	0.859	0.882	0.600
	R2	0.764					
	R3	0.807					
	R4	0.765					
	R5	0.749					
Creativity	C1	0.863	4.432	0.501	0.967	0.924	0.637
	C2	0.835					
	C3	0.834					
	C4	0.831					
	C5	0.816					
	C6	0.615					
	C7	0.768					
Professional Development	P1	0.907	3.366	0.379	0.933	0.901	0.753
	P2	0.869					
	P3	0.836					

14 The Evaluation of the structural model

The factors used to verify the research hypothesis of this study were the evaluation of the direction, power, and significance level related to the path coefficients (betas). Leguina (2015) and Hair et al. (2014) state that the lowest individual R^2 should be 0.10 (10%) greater than the lowest default. We used three criteria, namely, determination coefficient (R^2), effect size (F^2), and prediction power coefficient (Q^2; Stone-Geisser criterion), to investigate the relationships between latent variables. The R^2 criterion indicates the impact of the independent variable on the dependent variable. In addition, three values of 0.19, 0.33, and 0.67 indicate low, medium, and high R^2 levels, respectively. The effect

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size (F2) allows us to estimate the contribution of an exogenous construct to its endogenous potential value. Values of 0.02 to 0.35 are considered mild, moderate, and strong, respectively, based on this criterion (Hair et al., 2014). The F2 values for the exogenous constructs in this study were: Creativity = 0.214 and Educational

Reflection Inventory = 0.085. Q2 evaluates the predictive power of the model (Stone-Geisser criterion). The three values of 0.02, 0.15, and 0.35 represent low, medium, and high levels, respectively, for the second quarter. Table 2 shows the R2 and Q2 values for the research model.

Table 2

Results of R^2 and Q^2 for Endogenous Constructs.

	Creativity	Professional Development
R2	0.370	0.418
Q2	0.234	0.315

The two endogenous variables were 0.370 and 0.418. Furthermore, the Q2 values of 0.234 and 0.315 suggest that this model has a high predictive power. Eventually, the standardized root mean square residual (SRMR) is defined as the difference between the constant root of the observed correlation and the predicted correlation matrix, according to Sathiyavany and Shivany (2018, p. 7). It should be noted that acceptable values are less than 0.10 (Henseler et al., 2015). The SRMR (estimated and saturated) value of this model was 0.077, NFI = 0.820, x2/df = 244.932/87 = 2.81, indicating a good model fit.

The first research question explored if there is a significant relationship between

EFL teachers' reflective practice and their professional development. A Spearman Correlation test and SEM method were performed. The results are shown in Tables 3 and Table 4.

Table 3 indicates that the correlation between exogenous and endogenous variables is higher than mediate. We used Bootstrap T-statistics to explore the significance of the relationship. Table 4 indicates the path coefficient between the latent variables, the second hypothesis, and the bootstrap T-statistics. Since the T-statistic was more than 1.65, the hypothesis was accepted.

Table 3

Correlation Between Exogenous and Endogenous Variables

	Reflective Practice	Professional Development
Reflective Practice	1	0.646 **
Professional Development		1

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

The results of Table 4 indicated that the relationship between independent and

dependent variables was significant and moderate.

Table 4

Examination of the Path Coefficient of the Relationship.

	Relations	Original Sample (β)	Standard Deviation (STDEV)	T-Statistics (|β/STDEV|)	P-Values	Sign. level	Decision
H2	Reflective Practice -> Professional Development	0.280	0.101	2.770	0.006	****	Supported

The results of Table 4 indicated that while the hypothesis was confirmed, the effect size was evaluated by the beta coefficient. The beta coefficient is a number between 0 and 1, the closer to 1, the higher the impact of the independent variable on the dependent variable. It means that 0.28 of dependent variable changes are estimated by the independent variable.

The second research question inquired whether there is a significant relationship between EFL teachers' reflective practice and their creativity. A Spearman Correlation test and structural equation modeling (SEM) method were performed. The results are shown in Tables 5 and 6.

Table 5 indicates that the correlation between exogenous and endogenous variables is higher than mediate. Bootstrap T-statistics were employed to assess the significance of the relationship. Routes with T-statistics over 1.96 at the 95% confidence level are statistically significant, as Fig. 2 illustrates (Garson, 2016). T-statistics above 1.65, 99% above 2.57, and 99.90% above 3.29 are considered acceptable at the 90% confidence level (Hair et al., 2014). The route coefficient between the first hypothesis, the bootstrap T-statistics, and the latent variables is displayed in Table 6. The hypothesis was approved since the T-statistic was more than 1.65.

Table 5

Correlation Between Exogenous and Endogenous Variables.

	Reflective Practice	Creativity
Reflective Practice	1	0.648 **
Creativity		1

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

The results of Table 5 indicated that the relationship between independent and dependent variables was significant and moderate.

Table 6

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Examining the Path Coefficient of the Relationship

	Relations	Original Sample (β)	Standard Deviation (STDEV)	T-Statistics (|β/STDEV|)	P-Values	Sign. level	Decision
H1	Reflective Practice -> Creativity	0.612	0.050	12.280	0.000	****	Supported

The results of Table 6 indicated that while the hypothesis was confirmed, the effect size was evaluated by the beta coefficient. The beta coefficient is a number between 0 and 1, the closer to 1, the higher the effect of the independent variable on the dependent variable. It means that 0.61 of dependent variable changes are estimated by the independent variable.

The third research question sought if there is a significant relationship between EFL teachers' creativity and their professional development. A Spearman Correlation test and SEM method were performed. The results are shown in Tables 7 and 8.

Table 7 indicates that the correlation between exogenous and endogenous variables is higher than mediate. Bootstrap T-statistics were employed to assess the significance of the relationship. The route coefficient between the third hypothesis, the bootstrap T-statistics, and the latent variables is displayed in Table 8. The hypothesis was accepted since the T-statistic was more than 1.65.

Table 7

Correlation Between Exogenous and Endogenous Variables

	Professional Development	Creativity
Professional Development	1	0.694 **
Creativity		1

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

The results of Table 7 indicated that the relationship between independent and dependent variables was significant and moderate.

Table 8

Examine the Path Coefficient of the Relationship

	Relations	Original Sample (β)	Standard Deviation (STDEV)	T-Statistics (|β/STDEV|)	P-Values	Sign. level	Decision
H3	Creativity -> Professional Development	0.443	0.084	5.264	0.000	****	Supported

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The results of Table 8 indicated that while the hypothesis was confirmed, the effect size was evaluated by the beta coefficient. The beta coefficient is a number between 0 and 1, the closer to 1, the higher the influence of the independent variable on the dependent variable. It means that 0.44 of dependent variable changes are estimated by the independent variable.

The fourth research question explored if EFL teachers' creativity mediates the relationship between reflective practice and PD. A SEM method was performed. The results are shown in Table 9.

Bootstrap T-statistics was used to examine the mediation effect. Table 9 examines the fourth hypothesis, the bootstrap T-statistics, and shows the mediating variable role (indirect effect). Since the T-statistic was more than 1.65, the hypothesis was accepted.

Table 9

Assessment of Mediator Effects

	Relations	Original Sample (β)	Standard Deviation (STDEV)	T-Statistics (|β/STDEV|)	P-Values	Sign. level	Decision
	Reflective Practice -> Creativity -> Professional Development	0.271	0.063	4.309	0.000	****	Supported

The results of Table 9 indicated that the mediating role of creativity was significant, which means that the creativity variable has a significant mediating role in the relationship between Reflective Practice and PD.

Figures 2 and 3 are a schematic view of the research model in standard and meaningful mode.

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Fig. 2

Test of the Research Model in Standard Mode
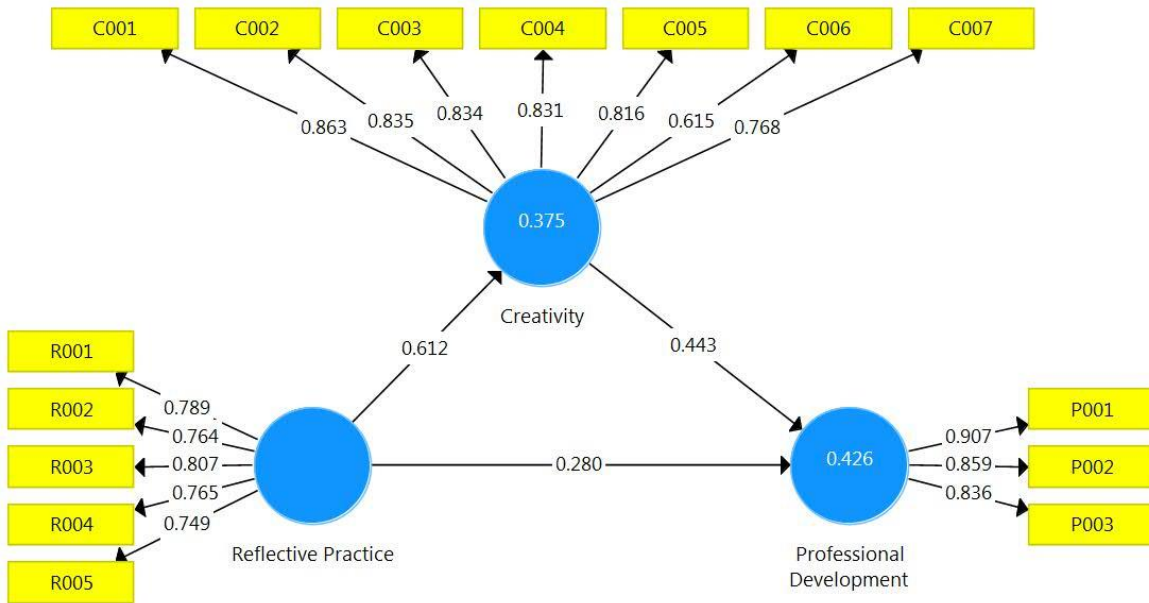
Fig. 3.

Test of the Research Model in Significance Mode

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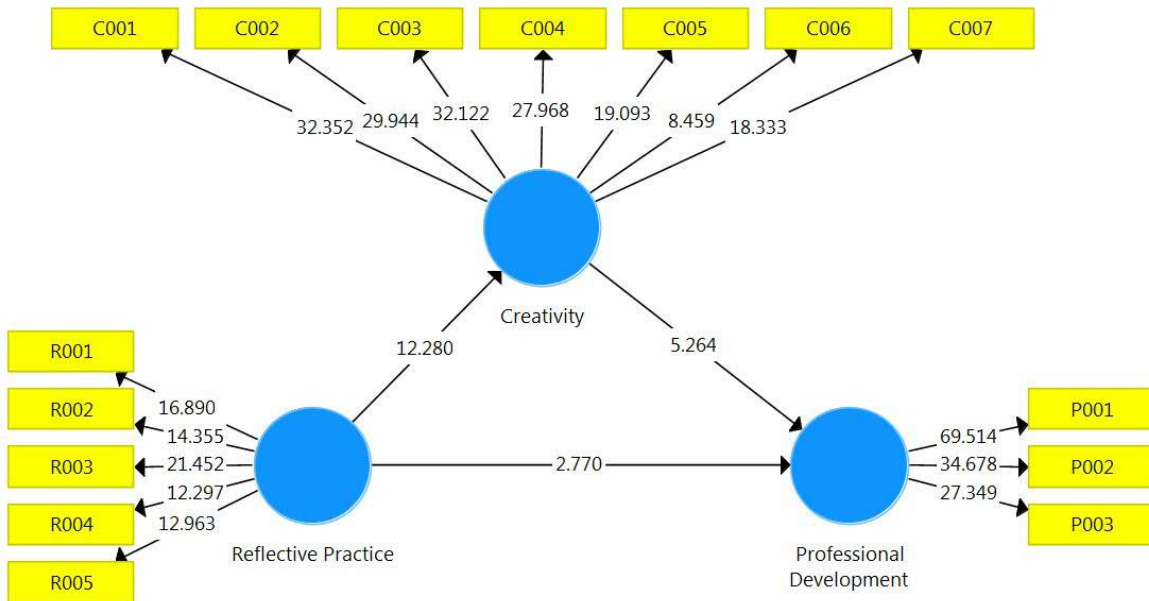
15 Discussion and conclusion

This study made an effort to explore the mediating effect of EFL teachers' creativity in the relationship between their reflective practices and their PD. The first research question explored the relationship between teachers' reflective practices and their PD. Accordingly, it was found that there is a significant relationship between these two variables. As such, the results of this research are in line with the results of Sparks-Langer et al. (1990), Gudeta (2022), and Widyaningrum et al. (2022). This suggests that, as Farrell discusses, through reflective reflection, educators can gain a better grasp of their pedagogy, evaluate their own PD, improve their decision-making abilities, and become more proactive and self-assured in their instruction (Farrell, 2013). These results are also consistent with the findings of the study conducted by Griggs et al. (2018), who explored whether the development of reflective practice skills on a professional course impacts the extent to which reflection becomes a part of their subsequent professional practice. The findings support the importance of teaching reflective practice in developing professional practice. In contrast to Williams and Burden (1997) who highlighted reflection as a means of clarifying underlying conceptions, Ruddock (1991, p. 4) views it as an obligation of the profession.

The results of the present research are also thoroughly supported by the findings of the studies conducted by Malmir and Mohammadi (2018) who examined the effect of reflective teaching on teachers' professional success. The researchers were influenced by the fact that EFL teachers' PD is affected by their self-efficacy and way of teaching. The findings

indicated that reflective teaching can predict EFL teachers' professional success and development. Also, Pinnegar and Lay (2023) conducted the effect of reflection on teacher and teacher-educator development. The findings of their study revealed that reflective practices are important in teacher development. They found that a preservice teacher's competence as a teacher increases with her level of reflection. Perhaps, as Miller (1990) notes, when a teacher starts asking questions to understand the processes that are going on around her and starts considering herself as the subject of inquiry, learning becomes a significant process in teaching. This makes the teacher thoughtful, attentive, and mindful in her practice.

Based on the findings of the second research question there is a significant relationship between EFL teachers' reflective practices and their creativity. Accordingly, the results of this research are in tandem with the results of Razdorskaya (2015), who employed the Reflective and RCA to teach medical students English. As reported, the dialectic relationship of reflection and creativity was probed, and it found that the reflective component is necessary for a creative educational context, and both reflection and creativity are important preconditions for improving the effectiveness of teaching. Furthermore, Lutz et al. (2016) explored how reflective practice can improve students' ability to find creative individual solutions in difficult communication situations. As reported, reflective practice may provide learners with the skills and attitudes to cultivate creativity in practice.

According to the result related to the third research question, there is a significant relationship between EFL teachers' creativity and their PD. In this regard, Han

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and Abdarahim (2023) emphasized the role of creativity in the PD of teachers in higher education. This study defined the concept of creativity in the field of higher education, identified its meaning, and identified the factors that affect creativity. The obtained results show that teachers' creativity plays an important role in the development of students' skills and in the PD of teachers. Furthermore, Pishghadam et al. (2012) sought the relationship between teachers' creativity and their success in the classroom. The results indicated that a couple of creativity dimensions can significantly predict teacher success. The results of the present study are also in line with the work of Mishra et al. (2015), who found that there is a significant relationship between creativity and teacher PD. There is also a strong connection between the findings of the present study and that of Azamalah and Nam-Hwa (2023), who reported strong support for the effect of creativity on teachers' PD experiences. The obtained results showed that most Korean teachers developed their ideas about teaching through creativity during in-service teacher development programs. In tandem with this study, Han and Abdrahim (2023) examined the impact of teachers' creativity in higher education, and they found that creativity plays a significant role in education. That's why educational institutions around the world are calling on teachers to move away from traditional pedagogical methods to be more creative and apply their creativity to teaching activities.

Regarding the mediating role of the creativity of EFL teachers, the results manifested that the relationship between reflection and PD through creativity was positively significant. To put it simply, creativity plays a mediating role in the relationship between reflective practice and teachers' PD. This means that reflective teachers who are creative possess high degrees of PD. As already stated, to our best knowledge, there were not any studies that have explored the mediating role of creativity in the relationship between teachers' reflective practices and their PD.

The present study discusses the practical consequences of these results for practitioners, researchers, and course/material developers. The results of this study can also help promote the professional success of EFL teachers. In other words, it can be implicated that teachers who were provided reflective in their daily practice may have higher degrees of creativity and this may lead to their better performance in teaching. As such, education programs and PD courses should accordingly foster teachers' reflection and creativity. Enhancing EFL teachers' creativity in teacher training programs can lead to the development of their success.

There were limitations in the study including the small sample size and the difficulty of generalizing the present results based on this limited sample of Iranian EFL teachers to the wider population of EFL teachers. The reliance on self-report data in the assessment of reflective practices, creativity and PD is another major limitation of the present study since the findings could be susceptible to self-presenting biases. Self-reported teacher data can be better supported using a variety of measurement tools, such as direct observations and semi-structured interviews.

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