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Comparative Analysis of Novice, Moderately Experienced, and Highly Experienced Iranian EFL Teachers' Self-Efficacy Focusing on Their Cognition, Metacognition, Affection, and Behavior

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ABSTRACT

Despite its enrichment, the literature on teacher self-efficacy lacks evidential data on the changes in both hidden and observable variables underlying this multifaceted construct. To compensate for this substantial gap, the current study compared patterns of cognition, metacognition, emotion, and behavior across three groups of Iranian EFL teachers with scant, moderate, and considerable teaching experience. 382 Iranian EFL teachers participated in the current study, filling out five well-established survey instruments targeted at measuring pedagogical knowledge, teaching reflection, motivational needs satisfaction, teaching styles use, and work engagement. The survey data were compared across the three groups based on a multivariate analysis of variance (MANOVA). According to the results, the groups differed significantly on a linear combination of the five variables. The discriminant function analysis (DFA) results showed that pedagogical knowledge and motivational needs satisfaction acted as a concordant pair and explained the heaviest load of the overall between-group differences. The significantly higher levels of pedagogical knowledge and motivational needs satisfaction among the moderately experienced teachers, compared to those of their less and more experienced counterparts, suggested that Iranian EFL teachers' sense of efficacy reaches its peak in the middle years of teaching life. The findings may provide new insights into the ways of setting English teachers of various experiential backgrounds on the road to optimum efficacy.

Keywords: Self-efficacy, Teaching experience, Comparative study, Teacher cognition, Pedagogical knowledge

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1. Introduction

The special significance attached to the profession of teaching lies mainly in teachers' multi-faceted role in surmounting the obstacles in the way of learners, as the chief beneficiaries of every instructional enterprise (Hismanoglu & Hismanoglu, 2010). As for English language teaching (ELT), the role of teachers in learning takes even greater significance owing to the necessity of learning English as the lingua franca in today's communicative world, the complicated nature of the subject matter, the specificity of the instructional content and teaching methodologies, the importance of teacher-learner interaction, and the inter-language disparity between native and non-native speakers. To effectively fulfill the whole range of duties those involved in ELT owe to their learners, along with having adequate knowledge of external factors (i.e., social expectations and public perception of an effective teacher), which shapes teachers' professional identity, English teachers need to have a clear picture of internal factors that influence their perception of effective teaching practice (Makovec, 2018). One of these internal factors is a psychological state of well-being called self-efficacy (Hoy, 2000). Teacher self-efficacy, defined by Tschannen-Moran and Hoy (2001) as teachers' self-confidence in their capacity to decide on and execute proper courses of action required to bring about plausible outcomes, has always been anchored in a dynamic construct, namely pedagogical experience.

Pedagogical experience is "a holistic characteristic of the teacher's practice of solving pedagogical tasks and problems, which reflects stable patterns; ways, conditions and personal prerequisites for obtaining certain results" (Maksimyuk, 2005, p. 76). In recent years, the significant contribution of pedagogical experience to teacher self-efficacy has been a highly controversial issue that has provoked a diversity of opinions in terms of both approval and disapproval (Podolsky et al., 2019; Rice, 2013). The proponents of pedagogical experience have mainly attributed its utility to the degree of stability it provides in teachers' thinking and performance, which yields an effortless and consistent teaching practice (Gatbonton, 2008). On the other hand, some other researchers (Henry et al., 2011; Ingersoll et al., 2018; Rice, 2013; Ulugbek, 2020) called the contribution of teaching experience to teacher efficacy into question owing to the productivity of teachers throughout their initial years of teaching. This may be the reason why policymakers involved in different EFL contexts still doubt whether or not experienced teachers' distinguishable features are worth the time and effort required to undertake the lengthy process of becoming experienced.

Although the link between teaching experience and teacher efficacy has always been a fertile research area in applied linguistics, no firm conclusion has yet been made in this regard owing to the one-dimensional

isolated approaches adopted by the bulk of scholars intrigued by the topic. A fragmentary recollection of the findings of the high-frequency previously-performed comparative studies on the novice and experienced teachers' teaching qualities and self-efficacy hardly provides a vivid picture of the interplay between gaining pedagogical experience and developing qualities pertinent to teaching professionals.

Addressing the dearth of comprehensive-scope research on the domain under investigation, the current study operationalized teacher self-efficacy as a linear combination of three latent and two observable variables and compared this multidimensional construct between novice, moderately experienced, and highly experienced Iranian EFL teachers. Teaching reflection and pedagogical knowledge depicted the cognitive and metacognitive dimension, work engagement and teaching styles referred to teachers' in-class behavior/practice, and motivation dealt with teachers' affective (emotional) dimension. The significance of the current comparative study lies mainly in its potential for providing a comprehensive-scope comparative scheme supposed to facilitate the realization of the gradual, developmental process whereby novice teachers become experienced in teaching. Awareness of the self-efficacy domains varying more drastically from the beginning to the ending years of a teaching profession may make future policies for teacher preparation and teaching quality enhancement much more cost- and time effective.

To accomplish the objectives enumerated above, the current comparative study sought to address the following research questions:

1. Do novice, moderately experienced, and highly experienced Iranian EFL teachers differ along cognitive/metacognitive (pedagogical knowledge and teaching reflection), emotional (motivational needs satisfaction), and behavioral (teaching styles use and work engagement) dimensions of teacher efficacy?
2. How do cognitive/metacognitive, emotional, and behavioral dimensions of teacher efficacy interact with each other to discriminate between novice and experienced (moderately and highly) Iranian EFL teachers?

2. Literature Review

2.1. Teacher Efficacy and its Association with Teaching Experience

The concept of efficacy was initially deployed by Bandura (1977) to describe a belief that either a particular action or a specific performance would lead to a certain outcome. Relying upon Bandura's (1997) description, scholars interested in conceptualizing teacher efficacy focused more on teachers' personal beliefs about a multiplicity of factors that have a direct bearing on their teaching performance such as the level of effort they put

forth, the period they could persist in the face of obstacles, their resilience while dealing with failures, and the level of accomplishment they experience in coping with difficult situations. For instance, Tschannen-Moran and Hoy (2007) characterized teacher efficacy as a vital factor that is "powerfully related to many meaningful educational outcomes such as teacher persistence, enthusiasm, commitment and instructional behavior, as well as student outcomes such as achievement, motivation and self-efficacy beliefs" (p. 783).

As far as the profession of teaching is concerned, the study of the association between practical experience and efficacy dates back to the ending years of the 20th century when teacher education was mainly impressed by the sociocultural perspective (Johnson, 2009). According to this perspective, learning was presumed to be the fruit of classroom-based social interactions between learners and a teacher equipped with a broad range of cognitive abilities such as knowledge of students, familiarity with learning/teaching context, and self-awareness (Johnson, 2009). During this era, a fierce debate raged between scholars of the time (e.g., Brookfield, 1993; Usher & Bryant, 1989) over the nexus of theory and practice. Notwithstanding the differences in theorizing the link, a clear consensus was made whereby an effective teaching performance, along with adequate theoretical knowledge, was believed to be dependent upon practical knowledge (Mehrpour & Moghadam, 2018).

Having scrutinized the evidential data drawn from the studies performed at the turn of the present century, Sturman (2003) claimed that the relationship between teaching experience and teacher efficacy is a non-linear sort of association. To clarify the rationale behind his contention, Sturman (2003) referred to the complicated and multifaceted nature of teaching as a profession, which could attenuate the positive direct relationship between practical experience and efficacy in other professions. Although the contemporary literature includes rare instances of empirical data showing a straightforward/linear association between pedagogical knowledge and teacher efficacy (e.g., Brandenburg et al., 2016), a significant load of empirical evidence (e.g., Hargreaves & Fullan, 2012; Klassen & Chiu, 2010) corroborated the cyclical/non-linear association postulated by Sturman (2003).

2.2. Aspects of Teacher Efficacy Likely to be Affected by Teaching Experience

Acknowledging that practical and emotional challenges teachers face while teaching will be declined as they cultivate experiential skills and competencies, Graham et al. (2020) inferred that measures intended to gauge the link between teacher efficacy and pedagogical experience need to refer to a set of internal and external factors depicting the behavior and mentality of

teachers. The need for such a multidimensional approach to teacher efficacy evaluation is also traceable in the recently-provided insights grounded on the socio-cognitive theory (Korthagen, 2017; Su et al., 2017), which highlights the necessity of involving cognitive and emotional/motivational aspects of teaching in the study of teacher efficacy changes. Unlike the outdated process-product paradigms which accentuated the need to explore observable dimensions of teaching practice, socio-cognitive approaches turned the spotlight on latent mental aspects that underlie teachers' instructional decisions (Johnson, 2009). Hence, a comprehensive-scope study of the link between teaching experience and teacher efficacy needs to focus its effort on four broad domains including cognition, metacognition, emotion, and practice.

2.2.1. Teacher Cognition and Metacognition

Teacher cognition, as defined by Borg (2006), is "an often tacit, personally-held practical system of mental constructs held by teachers which are dynamic—i.e., defined and refined based on educational and professional experiences throughout teachers' lives" (p. 35). Metacognition, generally defined as thinking about thinking (Metcalfe, 2000), helps teachers to exploit their cognition to raise their awareness of their teaching practice, and the goals and situations thereof (Hartman, 2001). Notwithstanding the functional differences between cognition and metacognition, a clear-cut distinction could hardly be made between them while investigating teacher efficacy, since teachers' beliefs about their cognitive skills and their professional knowledge are inextricably intertwined (Verloop et al., 2001). Further endorsement of an integrated analysis of cognitive and metacognitive constructs while exploring teacher efficacy lies in the dual function of teaching reflection, which not only deals with thinking about affective and practical issues (cognition) but also is concerned with thinking about cognitive issues (metacognition) relevant to given teaching practice (Akbari et al., 2010).

Based on a claim made by Mullock (2006), the study of teachers' cognition and metacognition encompass their planning, judgments, reasoning, and decision-making in their classrooms. In an earlier conceptualization by Darling-Hammond (1995), the cognitive constructs underlying teachers' instructional performance included awareness of many practical features such as content realization, syllabus design, teaching strategies use, classroom management, and learning goals/needs assessment. In the recently-developed literature on applied linguistics, these intellectual abilities are classified under an umbrella term, namely pedagogical knowledge. As stated by Verloop et al. (2001), the integrated concept of pedagogical knowledge encompasses "a large variety of cognitions, from conscious and well-balanced opinions to unconscious and unreflected intuitions" (p. 446). Mullock (2006) defines a pedagogical knowledge base (PKB) as the "accumulated knowledge about

the act of teaching, including goals, procedures, and strategies that form the basis for what teachers do in the classroom" (p. 48).

Teaching reflection is another cognitive/metacognitive construct that has gained a reputation for helping teachers realize the demanding and complex nature of their teaching practice (Pollard, 2002). As argued by Farrell (2007), teaching reflection entails not only gathering and analyzing data on classroom issues but also comparing the concluding remarks with the pre-existing beliefs and expectations to enhance the quality of teaching. Orvola (2009) believes that teaching reflection helps teacher contemplate their teaching practice to ascertain how the process of teaching/learning was impressed by the specific social context pertinent to their practice.

2.2.2. Emotion

As contended by Nias (1996), in the profession of teaching, emotion and cognition are so tightly interwoven that could hardly be analyzed in isolation. This claim has been underpinned by Van Veen and Sleeger's (2006) social-psychological theory of emotions. Of all emotional influences that second/foreign language (L2/FL) teaching/learning is concerned with, teacher motivation is presumed to be a vital area of study in the field of psychology and education (Han & Yin, 2016). Teacher motivation, as defined by Sinclair (2008), is a cover term that depicts "what attracts individuals to teaching, how long they remain in their initial teacher education courses and subsequently the teaching profession and the extent to which they engage with their courses and the teaching profession" (p. 37). In another conceptualization offered by Dörnyei and Ushioda (2011), a detailed account of teacher motivation, along with enthusiasm for and commitment to teaching, encompasses motivation to remain in the teaching profession.

The multifaceted nature of the term teacher motivation yielded an abundance of operational definitions, each concentrated on one or more item(s) referring to motives for entering the profession, temporary emotions in the classroom, off-instruction emotions, long-lasting emotions, intrinsic/extrinsic motivational needs fulfillment, the inherent interest of teaching, social contextual influences, lifelong commitment, and demotivating factors (Dörnyei & Ushioda, 2011; Han & Yin, 2016). The multiplicity of the factors underlying teacher motivation is also reflected in most of the theories of motivation whereby both the behavior and mentality of employees could be explained. These theories could be grouped into two broad categories including content-based (needs-oriented) and process-based theories. Content-based theories of motivation are grounded in the fact that people's behavior is a function of their individual needs, whereas process-based ones rely upon the associations among various motivational factors (Gokce, 2010).

2.2.3. Behavior (Practice)

The study of practical aspects of teaching quality while evaluating teaching efficacy gains significance given the theories (e.g., control-value theory) positing that teachers' emotions, specifically positive ones, have direct bearings on their behavioral patterns (Schutz & Pekrun, 2007). Among the many and various teaching qualities (e.g., characteristics, skills, strategies/styles, engagement/involvement patterns, and preferences) depicting teachers' behavior, teaching styles and engagement patterns have been attached a special significance, given the fact that they could depict the policy adopted to tackle knowledge transmission and classroom interaction, as the core duties of every effective teacher (Kaplan & Kies, 1995). According to Thompson (2008), effective teaching practice is marked by workable teaching styles and consistent work involvement patterns. Teaching style, defined by Heimlich and Norland (1994) as "prediction toward teaching behavior and the congruence between educators' teaching behavior and teaching beliefs" (p. 34), is presumed to reflect a combination of teachers' theoretical assumptions and actual teaching practice (Kazemi & Soleimani, 2013). Work engagement, as another behavioral construct that underlies teacher efficacy, is characterized as "a positive work-related state of fulfillment" (Schaufeli et al., 2002, p. 74) which is concerned with working patterns marked by high levels of vigor, absorption, and dedication (Schaufeli & Bakker, 2010).

2.2.4. Empirical Background to the Study

Detailed scrutiny of the literature shows that the similarities and differences between novice and experienced teachers have been explored from many different angles. For instance, the association between teaching experience and EFL teachers' cognition has been explored focusing on various thinking patterns such as knowledge of pedagogy (Mehrpour & Moghaddam, 2018; Nazari et al., 2019; Yazdanpanah & Sahragard, 2017), knowledge of coping with problematic situations (Pilvar & Leijen, 2015), teaching reflection (Moradian & Ahmadi, 2014; Soodmand Afshar & Farahani, 2015), and perceptions of instructional incidents (Suezawa, 2017). The literature also includes several comparative studies on novice and experienced EFL teachers' behavioral features such as classroom management strategies (Wolff et al., 2014), textbook adaptation strategies (Mede & Yalçin, 2019), work engagement (Amini Faskhodi & Siyyari, 2018; Topchyan & Woehler, 2020), and teaching styles (Karimnia & Mohammadi, 2019; Rahimi & Asadollahi, 2012; Zamanian & Soleimani, 2017). There are also some evidential data showing the link between teaching experience and emotional constructs such as job satisfaction (Kazerouni & Sadighi, 2014) and anxiety (Aslrasouli & Saadat Pour Vahid, 2014). Furthermore, several researchers (Akbari & Moradkhan, 2009; Kostić-Bobanović, 2020; Shohani

et al., 2015; Soodmand Afshar et al., 2015) approached the link between teacher efficacy and teaching experience with a focus on a mixture of behavioral patterns such as classroom management, student engagement, personal teaching, and teaching styles/strategies. No study, however, to the best of the authors' knowledge, has approached the link between teaching experience and teacher efficacy from a multidimensional perspective, which entails the exploration of cognitive, metacognitive, emotional, and practical, aspects of teachers' professional performance in tandem.

3. Method

3.1. Participants

Owing to the practical constraints on selecting a random sample from the wide-ranging population of Iranian EFL teachers, the convenience sampling method was employed to select the participants of the study. The sample included 382 (203 female and 179 male) Iranian EFL teachers from five countrywide language institutes with 660 branches spread throughout Iran. Drawing upon Cochran's (1963) formula, the sample size (382) fell within the effect size range for a population including 8000 to 9000 teachers (381 to 383, for ±5% precision levels and 95% confidence level). The selection of countrywide language institutions, as the delimited population, facilitated access to an integrated data storage system whereby a representative sample was readily picked. Acknowledging Dörnyie (2007) that convenience samples "are rarely completely convenience-based but are usually partially purposeful" (p. 99), the researcher sought to choose teachers of various experiential backgrounds from among the available and willing candidates in the population. Based on their teaching years, the participants were then categorized into three comparison groups, namely Novice (Nov.), Moderately Experienced (ME), and Highly Experienced (HE). Table 1 displays the demographics of the three comparison groups of the study.

Table 1
Demographics of the Survey Participants

Group	Teaching Years	N	Age Mean	Gender	Self-assessed Proficiency Level	Academic Degree
Nov.	0 to 5 years	148	25.2	87 female 61 male	Very Advanced:23% Advanced: 63% Upper-intermediate: 14%	TEFL: 62% OM: 38%
ME	5 to 15 years	121	31.3	75 female 46 male	Very Advanced:25% Advanced: 66% Upper-intermediate: 9%	TEFL: 59% OM: 41%
HE	More than 15 years	113	39.6	41 female 72 male	Very Advanced:20% Advanced: 75% Upper-intermediate: 5%	TEFL: 49% OM: 51%

Note: N stands for Number and OM stands for Other Majors

3.2. Design of the Study

A descriptive research design was employed to determine the way through which a five-component construct representing teacher efficacy discriminates between novice and experienced Iranian EFL teachers. The design was deemed to suit the research objectives since no control or intervention was implemented by the researcher before measuring the variables under investigation. Survey instruments were employed to gather the data and the combined construct of teacher efficacy was compared among the three comparison groups adopting a multivariate approach to comparison.

3.3. Instruments of the Study

The survey instruments employed to gather the quantitative data included five standard Likert scale questionnaires, each targeted at measuring one of the five major variables of the study. The following subsections delineate every individual instrument.

3.3.1. Self-assessment Questionnaire of Pedagogical Knowledge (SQPK)

The Likert-scale 50-item SQPK was used to gauge the learners' pedagogical knowledge base in the current study. The questionnaire, developed by Dadvand and Behzadpoor (2020), gauges teachers' pedagogical knowledge base in terms of nine distinctive areas including knowledge of the subject matter; teaching; students; educational context; classroom management; democracy, equity, and diversity; testing; learning; and professional self. To rate each of the items, a five-point Likert scale, ranging from 1 (*not at all*) to 5 (*to a great extent*), was employed. The reliability of the instrument for the specific context of the study was assured based on Cronbach's alpha coefficient calculated on an overall basis (α = .84).

3.3.2. Reflective Teaching Inventory (RTI)

The RTI, developed by Akbari et al. (2010), includes 29 items revolving around five different dimensions, namely practical, metacognitive, cognitive, critical, and affective reflection. To fill in the questionnaire, the participants were asked to choose a scale from among five discrete scales including 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), and 5 (*always*). The reliability index calculated on a holistic basis (α = .74) attested to an acceptable level of internal consistency.

3.3.3. Teachers' Motivational Needs Questionnaire (TMNQ)

Relying upon Maslow's (1987) hierarchy of needs, Gokce (2010) developed the TMNQ, which includes a total of 29 items probing into the

extent to which physical, security, social, esteem, and self-actualization needs of teachers are satisfied. In the original version of the TMNQ, every single item needs to be rated in terms of both fulfillment and importance levels using two different types of seven-point Likert scale. Based on the specific objectives of the current research study, however, the items were rated only in terms of fulfillment level, using a seven-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). To establish the reliability of the scale, the internal consistency of the whole questionnaire was explored through Cronbach's alpha coefficient (α = .86).

3.3.4. Teaching Style Inventory (GRTSI)

Being comprised of 40 items, Grasha's (1996) GRTSI is structured around five major styles of teaching including expert, formal authority, personal model, facilitator, and delegator. The participants were asked to use a five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), to rate every single item of the questionnaire. The Cronbach's alpha coefficient calculated on a holistic basis (α = .73) assured the researcher of the acceptable internal consistency of the instrument.

3.3.5. Utrecht Work Engagement Scale (UWES)

The 17-item UWES, designed and developed by Schaufeli et al. (2002), helped to measure the overall work engagement level of the participants in terms of three different involvement (engagement) patterns including vigor, absorption, and dedication. Asking how often the respondents experience a specific feeling relevant to work engagement, every single item of the UWES was rated based on a seven-point Likert scale including 0 (*never*), 1 (*almost never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), 5 (*very often*), and 6 (*always*). The context-specific reliability of the UWES was established through pilot testing, which testified to an acceptable level of internal consistency for the total scale (α = .73).

3.4. Procedures

The instruments were all well-established surveys chosen based on their widely-approved reliability and validity. Nonetheless, to make sure that they are adequately reliable to be employed in the specific context of the study, all of them were pilot tested by the researcher on 50 subjects who enjoyed characteristics and qualities similar to those of the main participants. The scales provided by the pilot sample were used to explore the internal consistency of the instruments. The suitability of the surveys for probing into the constructs under investigation was ensured through expert appraisal. To this end, two TEFL experts were consulted about the construct validity of the instrument.

The data collection procedure commenced with a search of volunteers from among the Iranian EFL teachers whose contact information was provided by the central branches of the five institutes. After receiving a brief explanation of the study, the teachers were assured of the anonymity condition of the study. Those who consented to participate in the research, filled out the five survey instruments, going through a web-based surveying process. The use of the form builder facility in the Google Form website not only eased the burden of handing the paper-version of the questionnaires back but also made the data collection procedure more user-friendly. The web-based links of the questionnaires were sent to every participant via both e-mail and WhatsApp. The participants were free to decide on either WhatsApp or e-mail formats based on their ease of use.

Owing to the variety of the survey instruments, they were sent to the participants gradually. The gradual data gathering procedure ruled out the possibility of receiving inaccurate and sketchy information. Accordingly, the researcher embarked on sending a new questionnaire only when she received the completed version of the previously-sent one. Having surveyed the whole sample, the researcher summarized the data, calculating the overall scores based on the Likert scales used for rating each of the five survey instruments. The quantitative data were then analyzed to answer the two research questions.

3.5. Data Analysis

After gathering the survey data, the Likert scales chosen by the participants were employed to calculate the overall scores of the five variables. The scores were then used to draw a between-group mean comparison in terms of a linear combination of the five variables to address the first research question. One-way MANOVA was deemed to be appropriate since the cover variable (i.e., teacher efficacy) was approached as a combination of five inter-related subscales. A DFA was also employed to address the second question of the study, which explored the interaction between variables useful for discriminating between novice and experienced Iranian EFL teachers.

4. Results and Discussion

4.1. Results

4.1.1. Results Related to the First Research Question

Table 2 displays the descriptive statistics of the five variables representing teacher efficacy in the three study groups.

Table 2
Descriptive Statistics of the Variables Representing Teacher Efficacy in the Three Groups

Variable	Group	*N*	Min	Max	Mean	*SD*
Pedagogical Knowledge Base	Nov.	148	193	220	205.84	5.55
	ME	121	195	217	208.80	4.37
	HE	113	190	219	206.47	5.06
Teaching Reflection Level	Nov.	148	60	115	96.42	9.32
	ME	121	71	108	94.93	7.92
	HE	113	66	112	93.74	9.54
Motivational Needs Satisfaction	Nov.	148	102	143	124.78	7.73
	ME	121	103	156	129.68	7.99
	HE	113	106	152	124.93	9.86
Teaching Styles Use	Nov.	148	111	152	135.64	7.81
	ME	121	109	149	135.07	7.89
	HE	113	126	161	139.27	7.23
Work Engagement Level	Nov.	148	33	80	61.78	8.28
	ME	121	49	72	60.71	6.02
	HE	113	41	80	59.56	7.95

According to the results in Table 2, the PKB mean scores in Nov. (M = 205.84) and HE (M = 206.47) groups were found to be fairly identical; however, a greater average PKB (M = 208.80) belonged to the ME group. The comparison of the teaching reflection levels among the three study groups revealed the partial superiority of the teachers in the Nov. group (M = 96.42, SD = 9.32) over their counterparts in the ME (M = 94.93, SD = 7.92) and HE (M = 93.74, SD = 9.54) groups. As for the motivational needs, the average satisfaction level was found to be higher in the ME group (M = 129.68), in comparison with the corresponding values in Nov. (M = 124.78) and HE (M = 124.93) groups. Additionally, the statistics calculated using the teaching styles scores suggested a heavier use of various teaching styles by the HE group (M = 139.27, SD = 7.23) in comparison with those of the Nov. (M = 135.64, SD = 7.81) and ME (M = 135.07, SD = 7.89) groups. Finally, the work engagement levels were found to be very similar in the three study groups (Nov.: M = 61.78, SD = 8.28; ME: M = 60.71, SD = 6.02; HE: M = 59.56, SD = 7.95).

To compare teacher efficacy across Iranian EFL teachers with scant, moderate, and considerable teaching experience, a one-way MANOVA was run. The MANOVA examined the significance of the between-group differences in terms of a linear combination of the five variables representing teacher efficacy in the current study. Before running the MANOVA, the fundamental assumptions required to report valid results (e.g., multivariate

normality, linearity, no multi-collinearity, and homogeneity of variance-covariance matrices) were checked and no violation was witnessed. The MANOVA results are displayed in Table 3.

Table 3
MANOVA Results for the Indices Representing Teacher Efficacy

Effect	Wilki's Lambda Value	*F*	Hypothesis *df*	Error *df*	Sig.	Partial Eta Squared
Intercept	.001	147448.601	5	375	.000	.999
Group	.793	9.222	10	750	.000	.109

According to the results in Table 3, there was a significant difference between the three study groups in terms of a linear combination of the five variables representing teacher efficacy (Wilk's Λ = .793, $F_{(10, 750)}$ = 9.222, p < .001, multivariate η^2 = .109). The results revealed that 10.9% of the between-group difference could be attributed to the differences in teacher efficacy.

4.1.2. Results Related to the Second Research Question

To explore the ways through which the five dependent variables interact with each other to discriminate between the novice and experienced groups of the study, a DFA was carried out. Based on the assumption testing results, the five-variable model of the study met the broad range of assumptions underlying a DFA model (i.e., no multi-collinearity, homogeneity of variance/covariance matrix, and multivariate normality). Table 4 shows the results of the univariate analysis of variance (ANOVA) on the five variables included in the DFA model.

Table 4
Tests of Equality of Group Means in terms of the five Variables Included in the DFA Model

Variable	Wilks' Lambda	*F*	*df1*	*df2*	Sig.
Pedagogical Knowledge Base	.968	6.231		379	.002
Teaching Reflection	.985	2.908		379	.056
Motivational Needs Satisfaction	.934	13.408		379	.000
Teaching Styles Use	.948	10.428		379	.000
Work Engagement	.985	2.807		379	.062

As the results in Table 4 display, the significant between-group differences between the Nov., ME, and HE groups stemmed from the differences in pedagogical knowledge base ($F_{(2, 379)}$ = 6.231, p < .01), motivational needs satisfaction ($F_{(2, 379)}$ = 13.408, p < .001), and teaching styles use ($F_{(2, 379)}$ = 10.428, p < .001). Knowing that small values of Wilks's lambda show the importance of the independent variable to the discriminant function, motivational needs satisfaction (λ = .934), teaching styles use (λ = .948), and pedagogical knowledge base (λ = .968) were found to be the most

significant variables, respectively. Table 5 shows the canonical correlations and eigenvalues of the functions found through the DFA model.

Table 5
Eigenvalue and Canonical Correlation Estimated based on the DFA Model

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation
1	.170	68.7	68.7	.381
2	.078	31.3	100	.268

As displayed in Table 5, two different canonical discriminant functions were included in the DFA model. The first accounted for 68.7% of the variance (canonical R^2 = .145), whereas the second one explained 31.3% of the variance (canonical R^2 = .072). The amounts estimated as eigenvalue and the canonical correlation of the two functions were found to be partially low. Based on the Wilks' lambda test results, as shown in Table 6, the two functions in combination (Λ = .793, $\chi 2(10) = 87.437$, $p < .001$) and Function 2 per se (Λ = .928, $\chi 2(4) = 28.195$, $p < .001$) were statistically significant. Nonetheless, the statistic estimated for the combination of the two functions was lower than the one estimated for the second variant, indicating a greater discriminatory ability of both variants in combination compared to the one defined after detaching the impact of the first variate. Therefore, the group differences found by the MANOVA can be explained, taking account of the canonical and structure coefficients of both underlying functions.

Table 6
Willks' Lambda Value for the two Discriminant Functions Included in the Analysis

Test of Functions	Wilks' Lambda	Chi-square	*df*	Sig.
1 through 2	.793	87.437	10	.000
2	.928	28.195	4	.000

The standardized discriminant function (SDF) coefficients in Table 7 show the importance of each of the five variables in predicting various categories of teaching experience. Since the sign before each coefficient indicates the direction of the relationship, absolute amounts should be taken into account while determining the best predictors. Based on the SDF coefficients estimated for the first function, motivational needs satisfaction, teaching styles use, and pedagogical knowledge base were the most important predictors, respectively. As for the second function, however, teaching styles use, pedagogical knowledge base, and motivational needs satisfaction were the most robust predictors. Notwithstanding the differences in their order of importance, these three variables with the greatest ability to discriminate the groups were recognized as the best predictors of membership in the Nov., ME, and HE groups.

Table 7

Discriminate Function and Structure Coefficients of the Five Variables Included in the DFA

Index	Standardized Canonical Discriminant Coefficients		Structure Coefficients	
	Function 1	Function 2	Function 1	Function 2
Motivational Needs Satisfaction	.812	. 481	.626	. 431
Pedagogical Knowledge Base	.556	. 554	.378	. 443
Teaching Styles Use	-.682	.658	-.410	.584
Teaching Reflection Level	-.053	-.295	.021	-.310
Work Engagement Level	-.041	-.312	.046	-.227

The structure coefficients in Table 7 were used to determine the variables with the largest loadings for each discriminate function. Taking the two functions into account, the coefficients calculated for motivational needs satisfaction, teaching styles use, and pedagogical knowledge base exceeded the cut-off point for detaching important variables from less important ones (0.30). Based on the loading (structure) coefficients, motivational needs satisfaction loaded more onto the first function (r = .626) than the second one (r = .431); whereas pedagogical knowledge base loaded somehow evenly onto the two functions (Function 1: r = .378, Function 2: r = .443). Teaching styles use loaded discrimination onto the two functions in opposite (reverse) direction (Function 1: r = -.410, Function 2: r = .548). Teaching reflection level only loaded onto the second function and work engagement level loaded significant discrimination onto neither of the two functions. Accordingly, work engagement, teaching reflection level, and teaching styles use were excluded from the combined model.

Table 8

Group Centroids for the Two Discriminant Functions

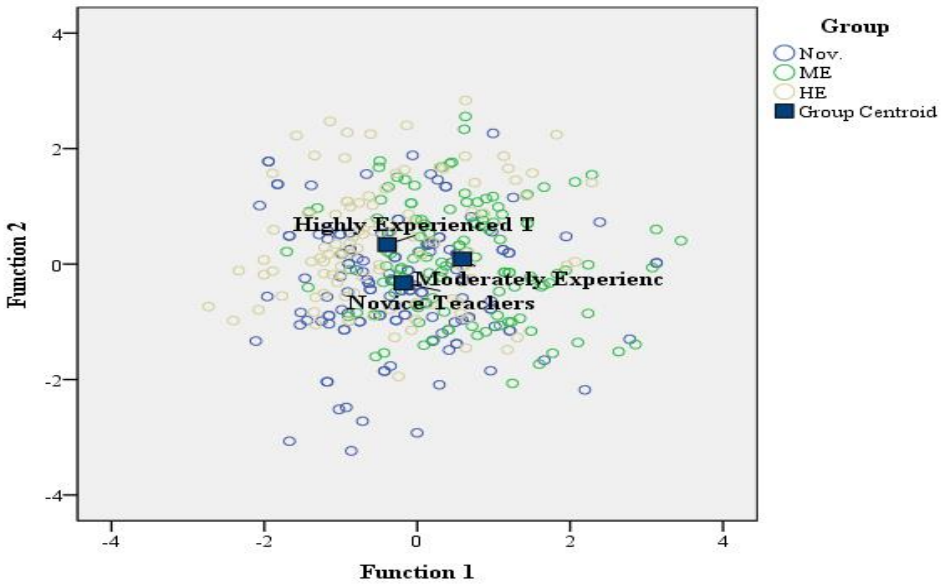
Group	Function	
	1	2
Nov.	-.182	-327
ME	.590	. 086
HE	-.394	.336

Table 8 displays the variate centroids (the average variate scores) for each of the three study groups. Based on these results, variate 1 discriminated the moderately experienced teachers from their novice and highly experienced counterparts because the value estimated for the ME group was positive, whereas those estimated for the Nov. and HE were negative. On the contrary, concerning the second variant, the distance from the centroids estimated for both the Nov. and HE groups to the one estimated for the ME group was

somehow the same. These results are well illuminated in the combined discriminant plot presented in Figure 1.

Figure 1

Combined Canonical Discriminant Functions Plot



As the horizontal distances in Figure 1 show, the first function, associated positively with motivational needs satisfaction and pedagogical knowledge and negatively with teaching styles, clearly discriminated the moderately experienced participants from their novice and highly experienced counterparts. Looking at the vertical between-centroids distances, one can easily infer that the second variate, associated positively with teaching styles use, pedagogical knowledge base, and motivational needs satisfaction, resulted in faint discrimination between the novice and experienced groups. Taking account of both functions into account, motivational needs satisfaction and pedagogical knowledge base are the best predictors of membership in the ME group since the incorporation of teaching styles use in the predictors' list may reduce discrimination between the ME group and the other ones.

4.2. Discussion

The first question of the study examined whether or not novice, moderately experienced, and highly experienced teachers differ in a linear combination of latent and observable constructs underlying teacher self-efficacy. The latent construct referred to teacher cognition, metacognition, and affection, whereas the observable ones dealt with teacher behavior. After scrutiny of the literature, five interrelated variables, including pedagogical

knowledge, teaching reflection, motivational needs satisfaction, teaching styles use, and teaching reflection constituted the multifaceted concept of teacher self-efficacy. Based on the MANOVA results, the five-component combination yielded a significant difference between the study groups. Accordingly, it was inferred that the novice, moderately experienced, and highly experienced teachers differed on a linear combination of the five variables representing various aspects of teacher efficacy in the current study. The empirical gap in terms of a multidimensional investigation into the link between teacher efficacy and teaching experience hindered the endorsement of the finding in light of the previously-conducted research. Nonetheless, the significant difference between the three experiential classes lent supplementary support to the studies showing the interrelatedness between teacher efficacy, as a self-assessed perceptional concept, and experience of teaching in the Iranian EFL context (e.g., Akbari & Moradkhan, 2009; Shohani et al., 2015; Soodmand Afshar et al., 2015) as well as other EFL contexts (e.g., Kostić-Bobanović, 2020; Tschannen-Moran & Hoy, 2007).

To establish the meaningfulness of the multivariate between-group differences found by the MANOVA results, there was a need to know how the five variables interact with each other to yield an overall difference in teacher self-efficacy. Accordingly, the second question of the study probed into the distinctive and interactional role of the variables underlying teacher self-efficacy in differentiating novice Iranian EFL teachers from their moderately and highly experienced counterparts. Based on the DFA results, teaching reflection and work engagement were found to waste the potential of the five-component model for differentiating between novice and experienced teachers of the study, loading significant discrimination onto only one or neither of the two discriminant functions of the study. As for working engagement, the finding bore a striking resemblance to the finding of Topchyan and Woehler's (2020) study, indicating that teaching experience does not contribute to any significant changes in work engagement level. The finding however seems in contradiction with several previous studies that implied a significant association between teaching experience and work engagement, based on either a positive (Amini Faskhodi & Siyyari, 2018) or a negative (Kong, 2009) correlation between the two variables.

The non-significant differentiating role of teaching reflectivity seems quite strange owing to the plenitude of evidential data showing the significant mediating role of teaching reflection in differentiating between low and high-experienced EFL teachers (e.g., Bandura, 2009; Moradian & Ahmadi, 2014; Soodmand Afshar & Farahani, 2015). Such a revealing finding may be justified given the need for calculating teaching reflectivity levels on a holistic basis in the current study. Since the multivariate approach to teacher efficacy entailed the inclusion of the teachers' overall level of teaching reflection, the between-group similarity does not inevitably denote a non-

significant role for teaching experience in affecting various types of reflectivity, as found by the previous research studies enumerated above.

The DFA results also revealed that, despite its significant contribution to the two discriminant functions, teaching styles use needs to be excluded from the model because of its discordant loadings into the two functions. Consequently, it was inferred that neither of the two constructs depicting the teachers' behavioral patterns (i.e., teaching styles use and work engagement) could be effectively used to discriminate between novice and experienced participants of the study. The literature on the impact of teaching experience on teaching styles use and pedagogical knowledge of EFL teachers includes evidential data both in favor of (e.g., Karimnia & Mohammadi, 2019; Zamanian & Soleimani, 2017) and in contradiction to (e.g., Baleghizadeh & Shakouri, 2017; Rahimi & Asadollahi, 2012) the contributory role of teaching experience in differentiating teachers of various teaching styles. Nonetheless, the inappropriateness of practical constructs for predicting the teachers' experiential class seems quite reasonable owing to the observable nature of these constructs, which offer the possibility of imitation and emulation.

Based on the results, among the five variables representing teacher efficacy, pedagogical knowledge and motivational needs satisfaction, representing teachers' cognition and emotion respectively, loaded positively and concordantly onto both of the two discriminant functions. These two latent constructs, therefore, were found to be the major sources of the between-group differences in terms of teacher efficacy. The significant interaction between teachers' emotion and cognition in differentiating between the novice and experienced teachers, provides evidence for the widely-held view (e.g., Nias, 1996; Ochsner & Phelps, 2007; Pessoa, 2008; Van Veen & Sleegers, 2006) that in the profession of teaching, cognitive and affective constructs are closely intertwined.

As shown by the results, the overall levels of both motivational needs satisfaction and pedagogical knowledge base among the moderately experienced teachers were found to be significantly higher than those estimated for the novice and highly experienced ones. Accordingly, the results suggested higher levels of teacher efficacy among the teachers enjoying a moderate-level teaching experience. The significant ascendency of the moderately experienced teachers over their less and more experienced counterparts corroborated the theoretical and empirical evidence (Hargreaves & Fullan, 2012; Klassen & Chiu, 2010; Ng & Feldman, 2010; Sturman, 2003) that there is a non-linear association between teacher efficacy and teaching experience. Relying upon the findings of the current study, this non-linear association could be depicted through a bell-shaped illustration showing that EFL teachers' sense of efficacy reaches a peak in the middle years of teaching.

5. Conclusion and Implications

In the absence of a longitudinal study on the changes in Iranian EFL teachers' efficacy throughout their teaching life, the multidimensional comparative scheme developed by the current cross-sectional study may prepare the ground for speculating that novice Iranian EFL teachers are well on the road to efficacy, thanks to their proper regard for reflective teaching, effective use of teaching styles, and energetic engagement in teaching. Armed with a rich repertoire of pedagogical knowledge and having motivational needs satisfied to a great extent, Iranian EFL teachers are very likely to experience an optimum sense of efficacy in the middle years of their profession. This optimum sense of efficacy, however, is very prone to decline somewhere on the road owing to the variety of unfulfilled motivational needs and scant regard for continuous professional development.

The comparative results drawn from the current study may have several implications for both EFL theory and pedagogy. Theoretically, the significant interplay between the pedagogical knowledge base and motivational needs satisfaction underpinned the socio-cognitive approaches to teacher efficacy evaluation, as proposed by Bandura (1982). The contributory role of intellectual abilities and motivational factors in discriminating between teachers of various experiential backgrounds provided adequate evidential data in favor of the idea that self-efficacy, as a vital mechanism in human agencies such as teaching, along with behavioral patterns, is highly influenced by thoughts and emotions. Pedagogically, trainee teachers as well as those in charge of teacher training programs seem to be the main beneficiaries of the multivariate comparative scheme of the study. Pre-service and in-service courses targeted at improving the sense of efficacy among EFL teachers of various experiential classes could be inspired by the intellectual (cognitive) merits and demerits peculiar to each class. Additionally, the significant contribution of motivational needs satisfaction to higher levels of teacher efficacy may urge the local authorities, educational administrators, and policymakers to review the existing discriminatory arrangements.

Like any other context-specific small-scale research, generalizations about the findings of the current study need to be made cautiously owing to several practical limitations. First, the sample was confined to a total of 382 Iranian EFL teachers involved in institutes that have five or more branches nationwide. Second, the sample was selected employing a non-probability method owing to the impracticality of a random selection of the participants. This limited-size non-random sample may throw doubt on the generalizability of the findings to the wide-ranging population of Iranian EFL teachers. Third, the lack of previous research studies on the topic may act as a threat to the validity of the research. Fourth, the COVID-19 pandemic made it

difficult to directly monitor the process of gathering the survey data. As the last noteworthy limitation, the participants' gender, social classes, educational degrees, and cultural beliefs were not controlled while sampling. The heterogeneity of the participant sample in terms of the intervening variables enumerated above could hamper establishing the authenticity of the findings to some extent.

Given the novelty of the current multidimensional comparative study in the Iranian EFL context, the replication of the work needs to be undertaken in various settings (i.e., universities, high schools, and language institutions) and with an inclination to overcome the limitations of the current study. The study also needs to be replicated in diverse EFL contexts worldwide to reach context-free findings. Finally, focusing on the multidimensional, dynamic, and non-linear changes in teacher efficacy during the process of gaining pedagogical experience, an exploratory sequential mixed method research could be launched to explore the association between teaching experience and teacher efficacy from a complex-system perspective.

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