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An In-depth Analysis of the Cognitive Gaps between Novice and Experienced Iranian EFL Teachers

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ABSTRACT

Acknowledging that hidden constructs underlying teachers' professional identity at a given point of teaching life are presumed to account for their practical qualities, the current study explored the cognitive variations among three groups of Iranian English as a foreign language (EFL) teachers with low, moderate, and high degrees of teaching experience. To this end, a convenience sample, including 382 Iranian EFL teachers from 660 branches of five countrywide English language institutions, participated in a sequential explanatory mixed-method study. In the quantitative phase, the three groups were compared in terms of a linear combination of nine subscales representing teachers' pedagogical knowledge base, using multivariate analysis of variance (MANOVA). As shown by the results, the between-group differences in four of the nine sub-domains yielded a significant between-group gap in the overall level of teacher cognition. These differentiating knowledge areas included knowledge of learning, teaching, classroom management, and professional self. A qualitative follow-up phase was then launched in which a 95-member sample of the participants attended a retrospective interview to delve deeply into the nature of the four differentiating subdomains. The thematic analysis of the interview data divulged the processes and reasons underlying the four differentiating knowledge areas. The differences in knowledge of learning facilitator processes, digital literacy, preferences for classroom management policies, and views on professional relations use were some of the reasons for the quantitative between-group gaps. The findings may have new insights into the exact nature of Iranian EFL teachers' intellectual peculiarities at different stages of a teaching career.

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Introduction

The early years of the present century could be regarded as the dawn of a new era marked by a reform whereby the one-dimensional examination of teachers' actions in the classroom was superseded by a multidimensional analysis of their behavioral and mental constructs (Akbari et al., 2012). Until the turn of the present century, despite the abundance of features and factors that could potentially depict the quality of teaching, the study of teacher effectiveness was tightly grounded on outdated process/product paradigms, which entailed either student or teacher performance evaluation (Flores, 2019). Lauen and Gaddis (2016) contended that such a popular conceptualization was underpinned by an outcome-oriented approach to learning and teaching, downgrading a variety of social and cognitive domain-specific features essential for knowledge development (Hamre et al., 2014). To address this shortcoming, researchers engrossed in the study of teachers' professional development (e.g., Gu, 2023; Gümüş & Bellibaş, 2021; Korthagen, 2017; Su et al., 2017) relied upon the basics of Bandura's (1997) social cognitive theory, which acknowledges the necessity of involving cognitive, motivational, and behavioral factors in the study of teacher efficacy changes.

Based on reformed paradigms of language teaching, language teachers are "active, thinking decision-makers who make instructional choices by drawing on complex, practically-oriented, personalized, and context-sensitive networks of knowledge, thoughts, and beliefs" (Borg, 2003, p. 81). Relying upon such an uncontested definition, socio-cognitive approaches to teacher efficacy evaluation turned the spotlight on latent (hidden) personal and environmental aspects underlying teachers' instructional decisions and behavioral patterns (Burns et al., 2015; Johnson, 2009). Teacher cognition, defined as "an often tacit, personally-held practical system of mental constructs held by teachers" (Borg, 2006, p. 35), was the most typical exemplar of the latent constructs influenced by both personal (e.g., educational and experiential background) and environmental (contextual) factors (Borg, 2003). Borg (2003) attributed the necessity of taking account of teacher cognition while gauging the quality of teachers' professional practice to the undeniable association between teachers' mentality (i.e., thoughts, beliefs, and knowledge) and their instructional choices and proclivities.

At the end of the past century, creative endeavors were made to classify the whole range of intellectual competencies teachers required to perform effectively in the educational landscapes of the day. For instance, Darling-Hammond (1995) proposed a dual teacher knowledge model hypothesizing that effective teaching instruction not only needs knowing about theories (theoretical knowledge) but also requires adequate familiarity with ways of putting these theories into practice (instructional knowledge). Instructional knowledge encompasses awareness of many practical features such as content realization, syllabus design, teaching strategies use, classroom management, and learning goals/needs assessment. Inspired by the educational reforms carried out in the beginning years of the new millennium, Koehler and Mishra (2009) conceptualized language teacher cognition as a three-element framework, namely the Technological, Pedagogical, and Content Knowledge (TPACK) framework. Based on the TPACK framework, to attain the objectives perused by 21st-century learning, teachers should be equipped with knowledge about the subject matter (content knowledge), teaching/learning processes (pedagogical knowledge), and methods of working with technological tools and resources (technological knowledge).

As defined by Shulman (1987), pedagogical knowledge generally deals with an understanding of "how particular topics, problems, or issues are organized, presented, and adapted to the diverse interests and abilities of learners" and the ways of "representing and formulating the subject that makes it comprehensible to others" (pp. 8-9). Relying upon this well-established definition, Woods and Çakir (2011) proposed a model of PKB, which encompasses three distinctive dimensions, including theoretical, practical, and personal knowledge. The theoretical dimension deals with the various teaching assumptions derived from teaching/learning theories (Woods & Çakir, 2011). The practical aspect encompasses the knowledge gained through experience (Johnson, 2009). On the other hand, the personal dimension concerns personal beliefs formed by subjective interpretations of practical/theoretical constructs (Borg, 2003).

Regarding English language teaching (ELT), Akbari et al. (2012) developed a conceptual framework for PKB. The framework was based on the contention made by Verloop et al. (2001) that pedagogical knowledge needs to be approached as a multilateral concept that encompasses a variety of cognitive constructs ranging from "conscious and well-balanced opinions to unconscious and unreflected intuitions" (p. 446). Akbari et al.'s (2012) model included seven distinct subdomains: knowledge of the language (subject matter), teaching, learning, classroom management, students, culture, and context. Acknowledging the worth of the seven-element model proposed by Akbari et al. (2012), Dadvand and Behzadpoor (2020) proposed a nine-element model of PKB. The model included knowledge of subject matter (KoSM), students (KoSt.),

teaching (KoTch.), learning (KoLrn.), assessment/testing (KoTst.), classroom management (KoCM), educational context (KoEC), democracy/equity/diversity (KoDED), and professional self (KoPS). The domains and subdomains of the model are delineated in Appendix A.

Factors affecting teacher cognition have always been of great interest to those interested in applied linguistics research. Based on a claim made by Shavelson and Stern (1981), the study of teacher cognition commenced with an initial focus on teachers' judgments, reasoning, and decision-making in their classrooms. As time passed, along with decision-making and planning, many other theoretical tenets and practical skills depicting teachers' competence to manage the broad range of classroom issues were taken into account while exploring teacher cognition (Mullock, 2006). Having reviewed the constructs underlying language teacher cognition (LTC), Borg (2003) encapsulated plenty of evidential data (e.g., Bartels, 1999; Gatbonton, 1999; Lam, 2000) on the link between teacher cognition and performance in a sentence, stating that LTC is highly interwoven with professional education and classroom practice. He further argued that schooling (training experiences) and contextual factors could affect professional education and classroom practice (Borg, 2003). In a nutshell, Borg (2003) concluded that teachers' experiences, as both learners and teachers, could inform their cognition and, in turn, their classroom practice (Borg, 2006; Borg & Burns, 2008; Feryok, 2010; Hung, 2011).

Pedagogical experience, defined in the Great Russian Encyclopedia (2017) as "a set of practical knowledge, skills, and abilities acquired by a teacher in the course of everyday educational work" (p. 566), is the cornerstone of professional skills developed while professionalization (Leatherman & Niemeyer, 2005). According to Tsui (2003), professionalization mainly deals with expert practitioners' picture of developing a vivid picture of the processes involved in a particular profession. As Tsui (2003) maintained, forming such a multifaceted picture while gaining expertise is far beyond simply assembling the workable skills and techniques one encounter while teaching. As for the teaching profession, these practical techniques, which help teachers tackle the wide-ranging work of teaching, have been referred to as pedagogical experience (Saphier et al., 2008).

Relying on the newly-developed models of teacher cognition, which concentrate on various pedagogical knowledge areas, some researchers involved in the Iranian EFL context focused their attention on cognitive differences/similarities between novice and experienced EFL teachers. There is a plenitude of evidential data (e.g., Akbari & Dadvand, 2011; Gatbonton, 2008; Mullock, 2006; Pilvar & Leijen, 2015) testifying that teachers' accumulated professional experience has a direct bearing on their cognition and the elements thereof. Nonetheless, the variety of teacher cognition models and frameworks these studies are based upon hardly allows for ascertaining how teachers at different stages of their teaching life compare in terms of cognitive constructs informing their instructional practices. For instance, in a multi-case comparative analysis, Mehrpour and Moghaddam (2018) compared experienced and novice Iranian EFL teachers' beliefs and practices focusing on several practical issues (e.g., classroom management and language assessment) and various aspects of practical knowledge (i.e., content knowledge and pedagogical knowledge). Based on the results, excluding content knowledge, all other variables under investigation significantly differed between the two groups.

In another mixed methods study by Nazari et al. (2019), novice and experienced Iranian EFL teachers' differences in TPACK were investigated. The results drawn from the quantitative phase revealed that the experienced teachers enjoyed significantly higher levels of pedagogical knowledge. The qualitative results showed a discrepancy in professional development programs designed for novice and experienced EFL teachers. Furthermore, Yazdanpanah and Sahragard (2017) explored the PKB similarities/differences between experienced and novice Iranian EFL teachers. They concluded that knowledge of language and language learning skills might account for cognitive gaps between novice and experienced Iranian EFL teachers.

Detailed scrutiny of the literature on teacher efficacy showing the widely-echoed notion that teachers' cognition informs their instructional choices has rarely resulted in scientific attempts to explore cognitive facets underlying teachers' performance. Additionally, despite the abundance of theoretical and empirical data on cognitive similarities/differences between novice and experienced EFL teachers, there seems to be an apparent lack in the literature in terms of an in-depth approach to comparison. Consequently, the existing evidential data on cognitive similarities and differences between teachers of various experiential backgrounds could hardly prove helpful in discerning the reasons and motives behind variations in teacher cognition and practice. To address the gap, the current study focused on teacher cognition and explored how this unobservable component of teachers' professional identity differentiates between those in the beginning, middle, and end of a teaching profession. The empirically-validated deduction inspired the current study posited that teachers' accumulated teaching

experience could indirectly contribute to their teaching efficacy, affecting various professional facets in their mindsets. Providing an elucidatory account of gradual changes in the intellectual skills of teachers while going through different stages of teaching life, an in-depth, detailed analysis of teacher cognition may facilitate a better understanding of the empirically-validated practical differences between teachers of various experiential backgrounds. The current research sought to offer a comparative scheme of the cognitive peculiarities of teachers with low, moderate, and considerable pedagogical experience, addressing the following research questions:

1. Do novice, moderately experienced (ME), and highly experienced (HE) Iranian EFL teachers differ significantly in PKB? If so, what knowledge areas yield such a significant between-group difference?
2. What reasons or processes underlie the significant PKB gaps between novice and experienced Iranian EFL teachers?

Method

Design of the Study

Given the scope of the study and the problem under investigation, the current comparative study was grounded on a mixed methods design. Employing a combination of research techniques and strategies to investigate a phenomenon from a broader perspective, mixed methods models are ideally suited for studying complex-nature multivariate issues discussed in educational contexts (Mertens, 2005). Additionally, the sequential explanatory design suited the research objectives since an in-depth comparative analysis of novice and experienced teachers' efficacy in terms of multiple changing patterns in their cognition needed both quantitative and follow-up qualitative methods. Based on the design, the study included a primary quantitative phase, targeted at determining the knowledge areas that differentiate the novice participants from their moderately and highly experienced counterparts, and a subordinate qualitative phase, which aimed to delineate the exact nature of the differentiating features through a retrospective interview. The first and second phases entailed the administration of a Likert-scale survey instrument and a semi-structured retrospective interview, respectively.

Participants

There were several practical constraints (e.g., the broad geographical scope of the study, travel restrictions imposed by COVID-19, and the inaccessibility of a comprehensive list of Iranian institutions) on selecting a random sample from the wide-ranging population of Iranian EFL teachers. Accordingly, the sample was chosen from a population of Iranian EFL teachers working in five English language institutes with 672 branches all over Iran. The selection of countrywide language institutions, as the finite population of the study, helped the authors have access to an integrated data storage system required for picking an adequately large sample. A non-probability method, namely convenience sampling, was employed whereby 382 (203 female and 179 male) EFL teachers consented to participate in the survey phase. Based on Cochran's (1963) formula (for 95% confidence level and ±5% precision levels), the sample size met the representativeness assumption for a population including 8000 to 9000 teachers. Based on their teaching years, the participants were grouped under three headings: Novice, with zero to five years of teaching experience; ME, with five to 15 years of teaching experience; and HE, with more than 15 years of teaching experience. Of all those who participated in the quantitative survey phase, around 25% of the survey participants (N = 95) proceeded with the research and took part in the qualitative retrospective phase (see the participants' demographics in Appendix A).

Instruments

Self-assessment Questionnaire of PKB

The self-assessment questionnaire developed by Dadvand and Behzadpoor (2020) was employed to measure teachers' PKB. The instrument was designed to characterize pedagogical knowledge as a complex cognitive system, measuring teachers' PKB in nine distinct knowledge areas, including KoSM (18 items), KoTch (seven items), KoSt (seven items), KoEC (three items), KoCM (two items), KoDED (two items), KoTst (five items), KoLrn (four items), and KoPS (two items). A five-point Likert scale, ranging from 5 (to a great extent) to 1 (not at all), was employed to rate each item. Although the questionnaire has been fully explored in terms of different forms of validity and reliability by its developers (see Dadvand & Behzadpoor, 2020), its construct validity and reliability for the study's specific context were confirmed through expert appraisal and pilot testing. To this end, the version validated by two TEFL experts was administered to a 20-member pilot sample before the main study. The data were then used to calculate the Cronbach's alpha coefficients on both overall ($\alpha = .842$) and domain-specific (i.e., KoSM: $\alpha = .891$, KoTch: $\alpha = .721$, KoSt: $\alpha = .771$, KoEC: $\alpha = .830$, KoCM: $\alpha = .752$, KoDED, $\alpha = .698$, KoTst: $\alpha = .794$, KoLrn: $\alpha = .713$, and KoPS: $\alpha = .794$) basis. The results testified to the internal consistency of the instrument.

Semi-structured Retrospective Interview

The second data-gathering instrument of the study was a semi-structured interview developed by the authors to explore the exact nature of the differentiating knowledge areas found in the quantitative phase. The interview included a total of four predetermined open-ended questions. Every interview question was devoted to one of the differentiating PKB subscales and compelled the interviewees to provide additional explanations about various micro features explored earlier through the survey items. The questions were framed so detailed that the interviewees were driven to elaborate on the whole range of topics addressed by the survey items (see Appendix B). The interviewees' previously-provided responses to the questionnaire items acted as retrospective prompts for additional reflection and clarification about the differentiating constructs under investigation. The suitability of the interview questions for probing into the constructs under investigation was ensured through expert appraisal. Additionally, 10 EFL teachers selected randomly from the pilot sample attended the interview, and their responses helped the researcher ensure the comprehensiveness and coherence of the interview questions. The interviewer was to follow Richards' (2009) four-step protocol to ensure the consistency of interview administration. The protocol entailed a four-step process, including proper preparation, a good start, an effective interview-interviewer interaction, and a well-organized ending.

Data Collection Procedure

The quantitative data were collected through a web-based survey in which the participants were asked to click on a link built by the Google Form website and sent to every participant via e-mail and WhatsApp to reduce the burden of handing the paper version of the questionnaire back. The participants were free to decide on either WhatsApp or e-mail formats based on their ease of use. The e-mails and WhatsApp messages included a short description that asked the respondents to fill in the questionnaire faithfully, briefing them with the general outline and bearings of the study and assuring them that their responses are to be secure. Having surveyed the whole sample, the researcher summarized the data, calculating the overall and subcomponent scores based on the Likert scales provided by the participants. The authors then analyzed the survey data and discovered the differentiating PKB components. Once the significant subscales helpful in discriminating between the comparison groups were recognized, the authors developed the researcher-made retrospective interview and gathered the qualitative explanatory data. Within the survey sample, a convenience sample including 95 EFL teachers participated in the qualitative phase. The face-to-face contact constraints imposed by COVID-19 allowed the interviews to conduct the interviews virtually (via video call on Skype). The laborious process of interviewing with a partly large interview sample lasted six successive months. Before the interviews, the interviewees were asked to review their previously-provided responses to the survey items that probed into the differentiating subscales and answer the questions accordingly. The interviews were conducted in Persian to avoid any ambiguity. The time allocated to every open-ended question was at least five minutes. The interviews were all video recorded and transcribed verbatim to avoid data loss. The interview transcripts were then all rendered into English in consultation with an expert in English translation.

Data Analysis Procedure

After gathering the survey data, the scores relevant to every PKB subdomain were estimated using the Likert scales chosen by the respondents. Multivariate analysis of variance (MANOVA) and Scheffé post-hoc test were performed to address the significance of overall and domain-specific between-group differences in PKB. The qualitative data elicited from the interviewees were analyzed, summarized, and coded based on repeatedly-occurred topics, ideas, and patterns of meaning to address the second research question. To this end, the interview transcripts were broken into analyzable informative fragments and edited for brevity (see the summary of the interview transcripts in Appendix C) to delineate the exact nature of the differences found in the quantitative phase. The edited responses were then coded, and the percentage of every particular code was estimated, dividing its number of occurrences by the total number of codes. The codes and proportions provided a detailed interpretation of the exact nature of the differentiating patterns. Fishbone diagrams were employed to provide a summary of the interpretative results related to each of the differentiating knowledge areas.

Results

Quantitative Results

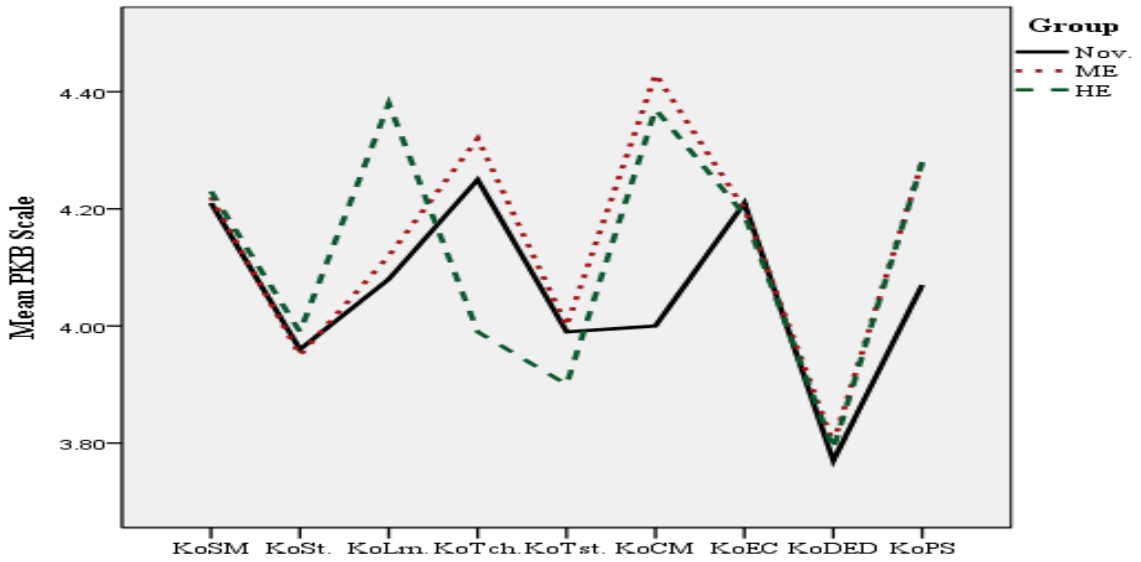
Table 1 presents the descriptive statistics of the nine knowledge areas representing PKB in the Novice, ME, and HE groups.

Table 1.
Descriptive Statistics of the PKB Components

Variable	Group	*N*	Min	Max	Mean	Mean Scale	*SD*
KoSM	Novice	148	64	82	75.79	4.21	3.05
	ME	121	63	82	75.98	4.22	3.23
	HE	113	64	83	76.09	4.23	3.48
KoSt	Novice	148	24	31	27.74	3.96	1.71
	ME	121	23	31	27.67	3.95	1.74
	HE	113	24	31	27.95	3.99	1.60
KoLrn	Novice	148	11	20	16.30	4.07	1.64
	ME	121	11	19	16.50	4.12	1.58
	HE	113	15	20	17.54	4.38	1.44
KoTch	Novice	148	23	33	29.73	4.25	1.73
	ME	121	25	33	30.27	4.32	1.47
	HE	113	21	32	27.95	3.99	2.16
KoTst	Novice	148	16	23	19.96	3.99	1.81
	ME	121	16	23	19.98	3.97	1.77
	HE	113	15	23	19.50	3.90	1.92
KoCM	Novice	148	6	10	7.99	4.00	0.94
	ME	121	7	10	8.86	4.43	0.89
	HE	113	7	10	8.73	4.37	0.89
KoEC	Novice	148	10	15	12.64	4.21	1.00
	ME	121	10	15	12.60	4.20	0.95
	HE	113	10	15	12.57	4.19	1.01
KoDED	Novice	148	5	10	7.54	3.77	1.02
	ME	121	5	10	7.58	3.79	1.00
	HE	113	5	10	7.58	3.79	1.02
KoPS	Novice	148	6	10	7.94	3.97	0.89
	ME	121	7	10	8.55	4.28	0.84
	HE	113	7	10	8.56	4.28	0.86

According to Table 1, the three study groups were partially similar in KoSM, KoSt., KoTst., KoEC, and KoDED. On the contrary, the average level calculated for KoLrn. in the HE group (M = 17.54, SD = 1.44) exceeded those of the Non. (M = 16.30, SD = 1.64) and ME (M = 16.50, SD = 1.58) ones. Additionally, there were between-group dissimilarities in KoTch among the three study groups (Novice: M = 29.73, SD = 1.73; ME: M = 30.27, SD = 1.47; HE: M = 27.95, SD = 2.16). KoCM and KoPS were the other domains that sparked remarkable differences between novice and experienced (ME and HE) teachers who participated in the study. Unequal survey items were used to measure each of the nine sub-components. Accordingly, the mean scales (the mean scores divided by the item numbers) were calculated to facilitate the recognition of the dominant knowledge areas in each study group through within-group comparisons (see Figure 1).

Figure 1.
Line Chart Representing the Mean Sales



As Figure 1 displays, the line representing the overall PKB level in the novice group overlapped the line depicting the same construct in the ME group to a great extent. However, this conformity seems strikingly broken for KoCM and KoPS. Additionally, the lines representing the novice and HE teachers' PKB diverged in most knowledge domains, including KoLrn, KoTch, KoTst, KoCM, and KoPS. Excluding KoLrn and KoTch, the lines representing the pedagogical knowledge of the two experienced groups of the study conformed to each other.

To examine whether or not PKB, as a linear combination of the nine knowledge areas examined in the current study, was significantly different among novice, ME, and HE Iranian EFL teachers, a one-way MANOVA was run. Before the analysis, MANOVA's underlying assumptions (i.e., multivariate normality, linearity, no multi-collinearity, and homogeneity of variance-covariance matrices) were examined. As revealed by the results, the equality of the covariance matrices among the three groups was violated, whereas the other assumptions were all satisfied. Accordingly, the Pillai's Trace test value, as a robust statistic for heterogeneous covariance matrices but homogeneous variances, was relied upon while interpreting the MANOVA results.

Table 2.
MANOVA Results

Effect	Pillai's Trace Value	*F*	Hypothesis *df*	Error *df*	Sig.	Partial Eta Squared
Intercept	.999	71762.404	9	371	.000	.999
Group	.521	14.547	18	744	.000	.260

As shown in Table 2, the three groups differed significantly on a linear combination of the nine knowledge areas representing PKB (V = .521, F (18, 744) = 14.574, p < .001, η^2 = .260). The results revealed that 26% of the between-group differences could be attributed to the differences in PKB. Separate cases of univariate analysis of variance (ANOVA) were carried out to determine the PKB components that significantly differentiated the study groups. The results are presented in Table 3.

Table 3.
Results of Between-Subjects Effects Tests on the PKB Components

Variable	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
KoSM	6.026	2	3.013	.288	.750	.002
KoSt	4.827	2	2.414	.839	.433	.004
KoLrn.	107.591	2	53.796	22.027	.000	.104
KoTch	346.598	2	173.299	53.886	.000	.221
KoTst	17.306	2	8.653	2.578	.077	.013
KoCM	59.794	2	29.897	36.359	.000	.161
KoEC	.368	2	.184	.188	.828	.001
KoDED	.152	2	.076	.074	.929	.000
KnoPS	15.514	2	7.757	10.433	.000	.052

The results in Table 5 revealed significant effects of KoLrn ($F(2, 379) = 53.796$, $p < .001$), KoTch ($F(2, 379) = 173.299$, $p < .001$), KoCM ($F(2, 379) = 29.897$, $p < .001$), and KoPS ($F(2, 379) = 7.757$, $p < .001$). Based on the partial eta-squared values of these four significant subcomponents, knowledge of teaching could account for the most rate of between-group variances (22.1%). The results drawn from the pair-wise comparison of the three study groups in terms of the four statistically significant PKB subcomponents are displayed in Table 4.

Table 4.
Results of Post Hoc (Scheffé) Tests on the Differentiating PKB Components

Variable	Group (I J)	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
KoLrn	(Novice ME)	-.19	.192	.606	-.66	.28
	(Novice HE)	-1.24*	.195	.000	-1.72	-.76
	(ME HE)	-1.04*	.204	.000	-1.55	-.54
KoTch	(Novice ME)	-.54	.220	.050	-1.08	.00
	(Novice HE)	1.78*	.224	.000	1.23	2.33
	(ME HE)	2.33*	.235	.000	1.75	2.90
KoCM	(Novice ME)	-.87*	.111	.000	-1.14	-.59
	(Novice HE)	-.74*	.113	.000	-1.02	-.46
	(ME HE)	.12	.119	.574	-.17	.42
KoSlf.	(Novice ME)	-.41*	.106	.001	-.67	-.15
	(Novice HE)	-.42*	.108	.001	-.68	-.15
	(ME HE)	.00	.113	.999	-.28	.27

As to Table 4, significant differences were found between the Novice and ME groups in terms of KoCM ($p < .001$) and KoPS ($p = .001$) in the ME group's favor. Given the statistics relevant to the Novice and HE groups, all four subcomponents were found to be significantly different between the two groups ($p \leq .001$). With the exclusion of KoTch, the differences in all the knowledge areas were in the HE group's favor. As for the two experienced groups, KoLrn was significantly higher in the HE group, whereas KoTch was significantly greater in the ME group.

Qualitative Results

The results related to every differentiating knowledge area are presented as follows.

Knowledge of Learning

The responses to the first interview question were grouped under three headings, including a) processes/activities that facilitate language learning, b) strategies for being aware of learners' involvement, progress, and difficulties in language learning, and c) ways of tackling learners' errors. Among the codes representing the processes and activities that facilitate language learning, receiving instruction followed by individual and interactive tasks had the highest

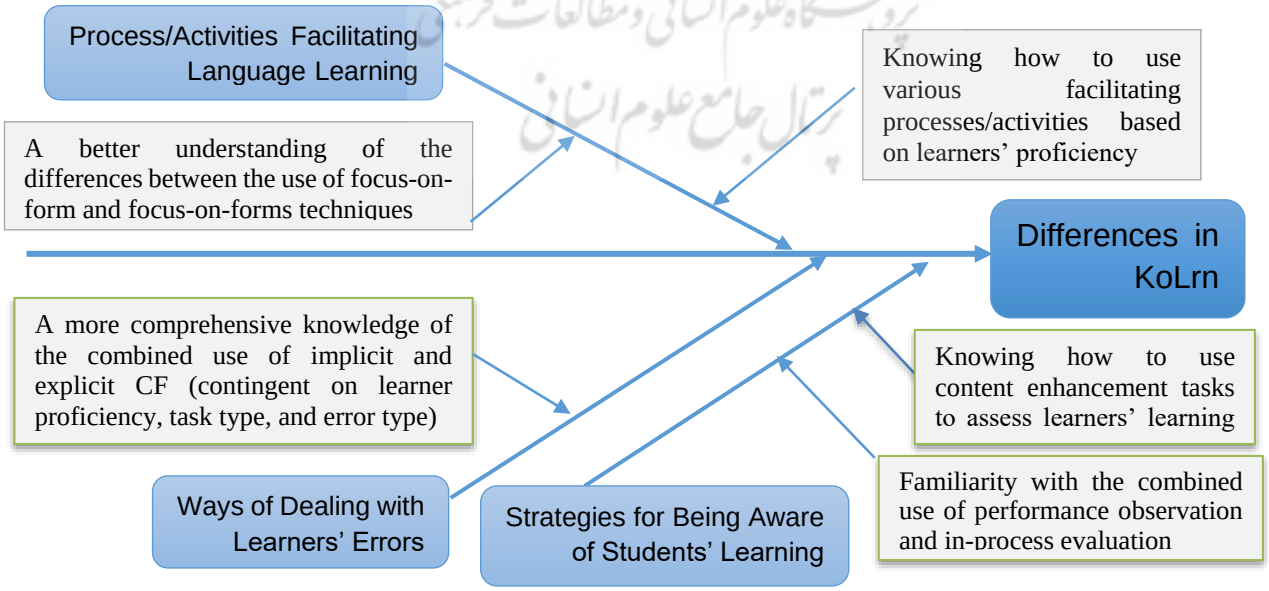
proportion in the Novice (32.56%) and ME (31.03%) groups.

Repetition after receiving instruction was the other process that a significant proportion of the Novice (30.23%) and ME (24.14%) interviewees regarded as a facilitating process in learning. Collaborative production and authentic language use after receiving instruction were the following two codes with the highest proportion in the Novice (16.28% for collaborative production and 11.63% for authentic language use) and ME (17.24% for collaborative production and 20.69% for authentic language use) groups. A tiny minority of the Novice (9.30%) and ME (6.90%) groups referred to employing focus-on-form techniques (i.e., teaching discrete linguistic elements as separate lessons) as learning facilitators. However, the order of the codes in the HE group was quite different from the other two groups since most HE interviewees (30.43%) believed the type of processes that follow content instruction is contingent on learners' proficiency level. The use of individual/interactive tasks (21.74%), authentic language use (13.04%), and repetition (8.70%) were found to facilitate language learning by smaller proportions of highly experienced teachers. Akin to the Novice and ME groups, focus-on-form was the code with a minor proportion in the HE group (4.35%). Nonetheless, a higher proportion of the HE interviewees (13.04%) believed that using focus-on-forms and focus-on-form techniques could facilitate language learning among high and low-proficiency learners, respectively.

Regarding the policies for being aware of student learning progress, random questioning (Novice:53.49%, ME: 41.38%, HE: 21.74%) and in-process evaluation (Novice:34.88%, ME: 41.38%, HE: 30.43%) were the most frequent codes in all three groups. Nonetheless, the between-group differences in terms of awareness-raising policies stemmed from the two codes with the tiniest proportions, including promoting learner involvement in content enhancement tasks (Novice:0%, ME: 0%, HE: 13.04%) and a combination of performance monitoring and in-process evaluation (Novice:0%, ME: 3.45%, HE: 17.39%). While the novice teachers used neither of the two policies, the experienced ones used either or both, although not to a great extent.

As for ways of dealing with learner errors, the majority of the Novice (53.49%) and ME (55.17%) teachers expressed that their use of implicit and explicit corrective feedback (CF) was heavily contingent on the error type. The other correction technique used by the other two groups (Novice: 46.53%, ME: 44.83%) was implicit CF. The combined use of implicit and explicit CF based on the error type was the code with the highest proportion in the HE group. Nonetheless, a remarkable proportion of the HE interviewees also believed that using a combination of implicit and explicit CF depends upon either task type (21.74%) or learner proficiency (17.39%). The use of implicit CF per se was also postulated by a considerable proportion (26.09%) of the HE teachers. Figure 2 visually represents the cause-and-effect relations related to the differences in KoLrn.

Figure 2.
Fishbone Diagram for KoLrn



Knowledge of Teaching

Analysis of the response to the second interview question showed that the emerging themes representing the between-group differences in KoTch included a) teaching goals, b) teaching approaches/methods, c) teaching techniques, d) lesson planning techniques, e) technology use, and f) knowledge expansion strategies. According to the results, the highest proportion of the HE interviewees (47.83%) regarded fostering students' language learning skills as their primary objective. The largest proportion of the novice (39.53%) and ME (41.38%) interviewees had due regard for fostering both language learning and 21st-century skills. As a matter of difference, however, this objective was a genuine concern to a minority of the HE teachers (8.70%). Creating a plausible learning environment (Novice:18.61%, ME: 20.69%, HE: 17.39%) and exploiting such an environment to help learners cultivate language learning (Novice:18.60%, ME: 17.24%, HE: 26.09%) were the objectives pursued by partially similar proportions of the novice, ME, and HE interviewees.

As for teaching approaches/methods, communicative language teaching (CLT) (Novice: 22.67%, ME: 20.69%, HE: 22.22%), eclectic method (Novice: 18.86%, ME: 17.24%, HE: 18.51%), and a combination of teacher-centered and learner-centered approaches (Novice:15.09%, ME: 13.79%, HE: 11.11%) were respectively the codes with the highest proportion of occurrence in the three groups. Based on the results, there was also a remarkable between-group similarity in codes with the most negligible occurrence, including interactive, learner-centered, subject-matter-centered, and task-based approaches to language teaching.

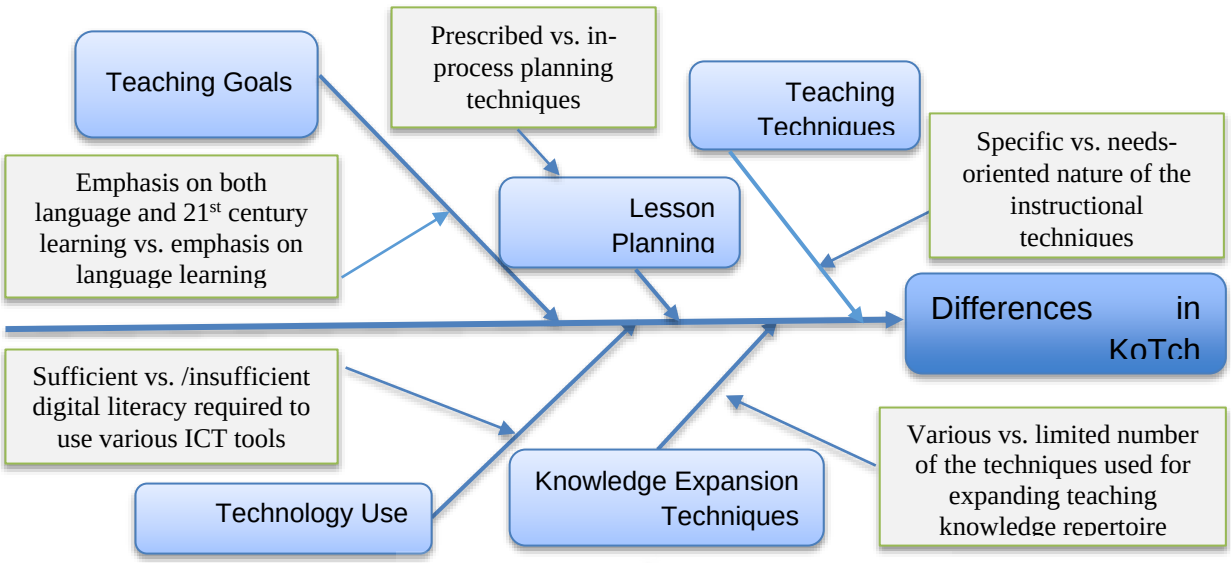
Regarding teaching techniques, most interviewees expressed that they often benefit from one or more of the conventional techniques exemplified in the survey item (i.e., brainstorming, language games, and question & answer). Nonetheless, a considerable proportion of the novice (32.55%) and ME teachers (19.33%) preferred to use other teaching techniques, such as flipped classrooms and language-mediated communication through social media. On the other hand, a considerable proportion of the HE teachers (30.43%), without referring to any specific technique, expressed that their use of teaching techniques is heavily contingent on the subject matter and learner age.

The proportion of using different lesson planning techniques was somewhat dissimilar among the three study groups. Most novice (65.11%) and ME (68.96%) teachers favored prescribed lesson plans based on teachers' guidebooks or conventional four-step lesson plans, including warm-up, teaching/learning, evaluation, and concluding activities. In contrast, the highest proportion of HE teachers (40.74%) preferred using a flexible prominence-ordered list of activities that provides room for in-process planning.

Technology use was another micro feature that sparked remarkable differences between the study groups. Most novice (60.47%) and a high proportion of the ME (41.38%) teachers believed they could easily use various offline and online Information and Communication Technology (ICT) tools. On the contrary, the most significant proportion of the HE teachers (43.48%) expressed that they have adequate familiarity only with the prescribed ICT tools they were to use in their classrooms. It is worth mentioning that only a tiny minority of the HE teachers (8.70%) confirmed that they know how to make technology-aided tutorials and tests. Additionally, a remarkable proportion of the HE interviewees (21.74%) acknowledged that they often consult an IT expert about their technological problems.

The codes representing knowledge expansion techniques used by the novice and ME teachers were more varied than those relevant to the HE ones. While most HE teachers (72.17%) preferred to expand their knowledge by reading up-to-date publications and surfing the Internet for credible online information, novice ME teachers mainly preferred to attend in-service teacher training courses (Novice: 23.26%, ME: 24.14%). These two less experienced groups also favored various other techniques, including reading up-to-date publications, embarking on higher education, participating in ELT conferences/seminars, and surfing the Internet for credible online information using a mixture of reflection, journal writing, and observation. Figure 3 shows the whole range of reasons and processes that may account for the differences in KoTch.

Figure 3.
Fishbone Diagram for KoTch

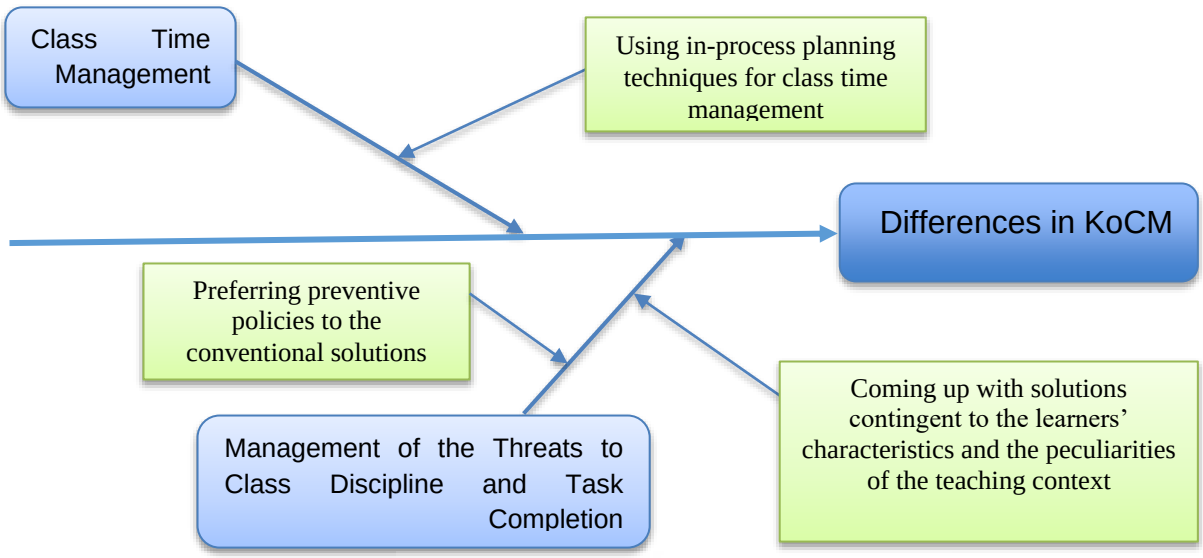


Knowledge of Classroom Management

The emerging codes relevant to KoCM were grouped under two headings: knowledge of managing class time and potential threats to class discipline and task completion. As shown by the results, the three groups differed in terms of the most-favored strategy for class time management. Most novice teachers (67.44%) believed that preparing and implementing a lesson plan may benefit class time management. In contrast, the highest proportion of the ME teachers (37.93%) believed that aside from preparing lesson plans, there is a need to plan a practical alternative to each pre-planned activity to avoid wasting time. On the other hand, the most considerable proportion of the HE teachers (39.13%) preferred to be flexible and responsive to the peculiarities of the teaching context, thereby managing the class time through in-process planning. These results revealed that while teaching planning appealed more to the novice interviewees, the ME and HE interviewees accentuated that pre-planned instructional activities need to be adapted by in-process planning to manage the class time when a pre-planned activity/task fails to realize.

Similarly, the interpretative data revealed remarkable between-group differences regarding the most-favored techniques for managing the potential threats to class discipline and task completion. The highest proportion of novice teachers (30.23%) preferred anticipating potential crises and problems to find probable solutions. On the contrary, the highest proportion of experienced teachers believed that there is a need for a clear understanding of the learners' features and the peculiarities of the learning context (ME: 31.03%, HE: 39.13%) believed that to meet the threats. Additionally, although a considerable proportion of the novice teachers (23.26%) expressed that they use one or more of the strategies enumerated in the survey item (i.e., identifying disturbing behavior, reprimanding, and regrouping students), only a tiny proportion of the experienced teachers (ME: 10.34%, HE: 8.70%) referred to these strategies. Instead, creating a plausible environment to inhibit severe crises was the second strategy prioritized by the experienced interviewees (ME: 27.59%, HE: 26.09%) (see Figure 4 for a summary of this section).

Figure 4.
Fishbone Diagram for KoCM

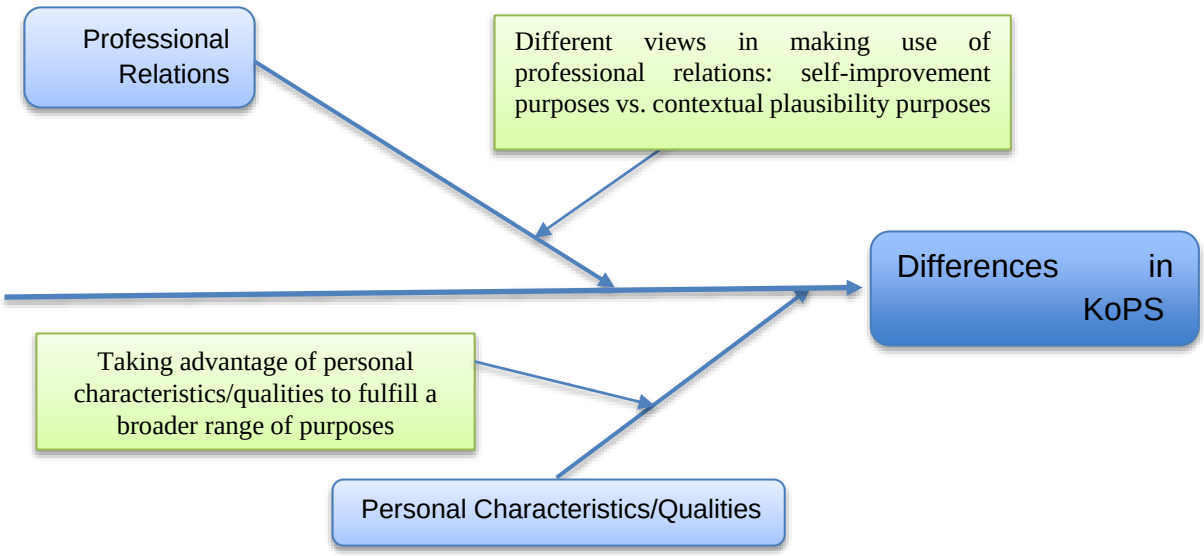


Knowledge of Professional Self

The last interview question asked the participants how their knowledge of personal characteristics/qualities and professional relations contribute to their teaching attainments. As the results revealed, the vast majority of the novice interviewees (86.05%) believed that KoPS provides teachers with a valuable tool for surmounting the potential obstacles to realizing an effective teaching practice. In contrast, a minority (13.95%) expressed that KoPS helps them personalize the prescribed curriculum to their specific characteristics and qualities. On the other hand, although a remarkable proportion of the ME teachers (41.8%) confirmed the usefulness of KoPS in overcoming teaching obstacles, a relatively high proportion of them referred to the role of this knowledge area in personalizing the prescribed curriculum (31.03%) and designing authentic language learning tasks/materials (27.58%). Similarly, the HE teachers were split over the primary function of KoPS; however, the highest proportion of them (39.13%) referred to the usefulness of the knowledge in surmounting the potential obstacles in the way of teachers.

Concerning the practical merits of knowledge of professional relations, novice teachers mostly referred to improving the quality of teaching (26.79%) and expanding pedagogical knowledge (23.21%). Nonetheless, the most significant proportion of the ME and HE teachers expressed that they usually take advantage of professional relations to create a pleasant workplace (ME: 27.59%, HE: 39.13%) and gain better recognition of the learners and their capabilities/difficulties (ME: 24.14%, HE: 26.09%). Benefiting from teaching professionals' advice and experiences was another code that yielded a remarkable difference between novice (21.43%) and experienced (ME: 10.34%, HE: 4.35%) teachers interviewed. See the qualitative differences in terms of KoPS in Figure 5.

Figure 5.
Fishbone Diagram for KoPS



Discussion

Findings Related to Knowledge of Learning

As shown by the quantitative results, the highly experienced teacher's knowledge of learning significantly exceeded that of the novice and moderately experienced ones; however, the average measures of the novice and moderately experienced teachers overlapped significantly. The significant difference in this knowledge area between the more experienced and less experienced teachers is in disagreement with the conclusion made by Yazdanpanah and Sahragard (2017) that the difference between expert and novice Iranian EFL teachers' knowledge of language learning is significantly negligible. Nonetheless, the ascendency of the HE teachers over their less experienced counterparts in learning knowledge could be supported by a couple of previously-conducted studies (e.g., Kumaravadivelu, 2012; Meyer, 2004). Based on the explanatory results, the highly experienced teachers' superiority in learning knowledge was rooted in processes/activities that facilitate language learning, strategies for being aware of students' progress/difficulties in language learning, and ways of dealing with student errors.

According to the qualitative results, a remarkable between-group resemblance was found in familiarity with conventional learning processes that facilitate language learning. Nonetheless, the highly experienced teachers emphasized the type and order of the facilitating processes/activities they use contingent on students' proficiency levels. It could be hypothesized that practical experience makes teachers adequately attuned to the demand for learning programs well suited to the broad range of learning needs and styles. The experienced teachers' concern for the use of learning activities aligned with the peculiarities of their teaching context accords with the contention made by Tomlinson and Imbeau (2010) that experienced teachers rarely regard one-size-fits-all tasks/activities as practical instruction. Additionally, being fully cognizant of the use of focus-on-form vs. focus-on-forms techniques and the situations in which each of the techniques suits students' learning needs, some of the HE teachers claimed that they take advantage of these techniques in their classrooms. The difference between the novice and experienced teachers in using either focus-on-form or focus-on-forms techniques is quite in line with Farrokhi et al.'s (2011) finding that the experienced and novice teachers differ in using form-focus and forms-focus episodes in terms of both frequency and type.

Based on the qualitative data relevant to learning awareness strategies, the novice and moderately experienced teachers preferred widely-used conventional strategies (e.g., performance monitoring, in-process evaluation, and random questioning) for being aware of student learning progress and difficulties. On the contrary, the HE teachers were found to have a more profound knowledge of either the hybrid (e.g., monitoring the learners' performance in combination with a formative assessment) or rarely-used strategies (e.g., the use of individual/collaborative content enhancement tasks) for gaining a good understanding of their learners' attainments and difficulties. The experienced teachers' endeavor to use hybrid or novel

techniques in tandem with the traditional ones for monitoring student learning may be attributed to their higher sensitivity to learners' success or difficulties in learning. Sekulić (2014) contended that being inclined to monitor learning progress continuously and difficulties, experienced teachers are more likely to adjust the learning tasks/activities based on the existing contextual peculiarities and interpersonal differences. Compared with their novice counterparts, the intricate nature of experienced teachers' classroom monitoring has also been validated by Cortina et al. (2015).

The qualitative data relevant to tackling student errors revealed that higher knowledge of learning among the HE teachers might be attributed to their awareness of using different arrays of implicit and explicit corrective techniques based on learners' proficiency, task, and error type. This finding lent additional support to the finding of Rahimi and Zhang's (2015) study that there is a significant difference between novice and experienced teachers' perceptions of the necessity, timing, and types of CF. To explain the rationale behind such a cognitive gap, Rahimi and Zhang (2015) referred to the flexible cognition of experienced teachers as opposed to the rigid cognition of their novice counterparts. Similar to what has been found in the current study, Rahimi and Zhang (2015) concluded that the type of CF perceived to be influential by experienced teachers heavily depends on individual and contextual differences. The findings indicated that implicit CF is the technique favored by the bulk of novice teachers. The variety of the corrective policies used by novice and experienced teachers is also in line with the finding of Suezawa's (2017) study, showing that in comparison with implicit corrective comments made by novice teachers, those made by experienced ones are much more varied.

Findings Related to Knowledge of Teaching

As for teaching knowledge, the results testified to the superiority of novice and moderately experienced teachers over the highly experienced ones. Nonetheless, the differences between the novice and moderately experienced groups gained no statistical significance. More revealing than the similarity between the novice and moderately experienced teachers was the inferiority of those enjoying considerable teaching experience. This finding was found to contradict the results drawn from the vast body of the previously-conducted research showing either a close similarity between novice and experienced teachers (e.g., Yazdanpanah & Sahragard, 2017) or the superiority of experienced teachers over their novice counterparts (e.g., Cheng, 2017; Jang & Chang, 2016; Nazari et al., 2019) in terms of teaching knowledge. The results drawn from the qualitative follow-up phase were employed to find the reasons behind such strange inferiority.

Based on the qualitative results, knowledge of teaching methods/approaches was the only area that yielded no remarkable dissimilarity between the HE teachers and their less experienced counterparts. As the interview data showed, CLT and eclectic teaching methods were the top two priorities of a vast majority of the interviewees, regardless of their teaching experience. This finding may cast doubt on the conclusion made by Smith (1996) that an eclectic mixture of pedagogical theories underlies expert teachers' instructional decisions and practice. In contrast, novice teachers adhere to a specific theoretical trend toward teaching. Such a discrepancy can be attributed to the privilege of CLT as the mainstream teaching method governing typical teaching practices in an Iranian EFL context. This methodological requirement gives Iranian HE teachers little room to use an eclectic range of theoretical and practical ideas as their most-favored teaching method.

The follow-up results related to knowledge of teaching goals showed that, unlike the novice and moderately experienced teachers who primarily aimed to help learners cultivate both language learning and 21st-century skills, the HE teachers focus on fostering language learning skills per se. Such an ambitious goal to foster both 21st-century literacy and language learning in tandem may imply that the beginner and moderately experienced teachers were very cognizant of the whole range of teaching goals perused by modern educational systems worldwide. Given the age difference between the less experienced (Novice: 24.7, ME: 30.1) and more experienced (40.01) teachers, the emphasis put by the less experienced participants of the study lends additional support to Prensky's (2001) assertion that digital natives, as the people born and grown up in the 21st-century, are much more ambitious than digital immigrants (those born before the digital age or 1985) for developing a variety of skills essential to 21st-century literacy.

Another point of dissimilarity in teaching knowledge was the specific nature of the occasionally-used teaching techniques among the novice and moderately experienced teachers vs. the needs-driven nature of the level-appropriate techniques used by the highly experienced ones. Although both novice and experienced teachers knew how to use a mixture of conventional techniques used in EFL classes, they were split on using needs-driven content/age-appropriate techniques vs. the recent instructional trends. Despite these between-group methodological differences found in the qualitative phase, the average scales used to gauge the knowledge of instructional techniques were

somehow equal among the three groups. This finding revealed that the methodological differences in knowledge of teaching strategies could hardly be a plausible justification for the experienced teachers' lower levels of teaching knowledge.

Based on the results, knowledge of lesson planning techniques was found to be another source of the between-group differences in teaching knowledge. While the novice and moderately experienced teachers preferred to use either a four-step conventional or the prescribed lesson plans, the highly experienced ones expressed that a flexible list of instructional activities ordered tentatively based on their prominence appeals more to them. From the highly experienced teachers' vantage point, a flexible lesson plan provides room for in-process planning. In such planning, the timing and the actual order of the pre-planned activities could be adapted to the specific learning needs, contextual situations, and unpredicted activities. Some early research showing that expert teachers can restructure their teaching plans based on learner demands and learning environment qualities (e.g., Johnson, 1992; McMahon, 1999) could validate the highly experienced teachers' tendency to use in-process planning techniques. The qualitative results drawn from Pilvar and Leijen's (2015) study also validate the superiority of experienced teachers over their novice counterparts in structuring their action plans for dealing with unexpected problems.

Another plausible justification for the unexpectedly lower levels of teaching knowledge among the highly experienced teachers may be attributed to their poor digital literacy compared with their novice counterparts. According to these results, the HE teachers, unlike their novice and moderately experienced counterparts, could not independently deal with the wide range of ICT tools available for effective management of either technology-aided conventional or virtually-held (online) classrooms. This claim could be supported by acknowledging the highly experienced teachers' admission that their knowledge of technology use either is confined to a couple of the prescribed tools or needs to be improved by consulting an IT expert. Compared with the less experienced teachers' intimate knowledge of technology use, this limited knowledge could inevitably yield lower levels of self-efficacy in terms of teaching knowledge. The inferior position of the highly experienced teachers in terms of technological knowledge is well in harmony with the finding of Nazari et al. (2019) that there is an inverse-direction relationship between Iranian EFL teachers' knowledge of technology and their teaching experience.

Knowledge expansion policy was the last subarea likely to yield the superiority of the less experienced teachers over the highly experienced ones. According to the interview results, there was a thirst for professional development among the less experienced teachers, which led them to use various arrays of knowledge expansion techniques. On the contrary, presuming themselves to be well-versed in teaching, the highly experienced teachers' demand for teaching knowledge expansion was confined to a couple of commonly-used strategies, such as making use of credible information either online or offline and taking part in local/international teaching seminars/conferences.

Findings Related to Knowledge of Classroom Management

The quantitative results indicated that novice teachers of the study possessed significantly lower knowledge of classroom management in comparison with their experienced (both moderately and highly) counterparts. The two experienced groups, however, did not differ significantly in this knowledge area. The experienced teachers' higher levels of classroom management knowledge seem quite reasonable owing to the empirically-validated positive correlation between teaching experience and self-efficacy for classroom management (e.g., Berger et al., 2018; Klassen & Chiu, 2010; Shohani et al., 2015). This positive relationship indicated that the professionalization process gives teachers the confidence to manage their classes effectively. This finding could also be justified in light of the follow-up results drawn from the qualitative analytical phase.

As the results revealed, although using pre-planned lesson plans was the most commonly-used strategy among the novice participants, the experienced teachers were more familiar with more workable strategies such as alternative and in-process planning. The familiarity of the experienced teachers with various strategies to manage their class time, especially when pre-planned instruction fails to progress, could be attributed to their cognitive flexibility in lesson planning. More specifically, the experienced teachers' access to a wide range of alternative and in-process time management strategies could help them meet the potential threats to class time. This finding corroborated the conclusion made by a couple of early studies (e.g., Borko & Livingston, 1989; Housner & Griffey, 1985) that expert teachers are well-versed in managing the flow of instructional tasks/activities over a certain period. The novice teachers' inclination to follow the pre-planned flow of activities is in harmony with a whole host of research (e.g., Mehrpour & Moghaddam, 2018; Tsui, 2003; Wolff et al., 2017), showing novice teachers'

negligence in being responsive to the in-process demands of learning.

As for tackling the potential threats to either class discipline or task completion, the experienced teachers, along with adequate awareness of widely-used conventional solutions, had a good understanding of workable preventive policies such as creating a plausible learning environment and taking advantage of friendly classroom relations. The finding echoes Mehrpour and Moghaddam's (2018) study that there is a distinction between expert and novice Iranian EFL teachers in sensitivity to affective factors and psychological traits while involved in classroom management practices. Additionally, the novice teachers' tendency to implement conventional classroom management strategies accentuates the claim made by Gatbonton (2008) that novice teachers, in comparison with their experienced counterparts, are much more inclined to concentrate on workable solutions to students' adverse reactions that may threaten the smooth running of the instructional process. To justify her claim, Gatbonton (2008) declared that novice teachers embark on classroom management in anticipation of problematic issues since they feel insecure about their status as a teacher.

Finally, based on the interview data, the experienced teachers had a more comprehensive knowledge of coming up with solutions adapted to learners' characteristics and peculiarities of the teaching context. The flexibility of experienced teachers in managing the class discipline and the flow of instructional activities based on environmental factors could be validated in light of the previous studies on pedagogical approaches to classroom management adopted by novice and experienced teachers (e.g., Boshuizen & Schmidt, 2008; Eraut, 2007; Mehrpour & Moghaddam, 2018; Tsui, 2003; Wolff et al., 2017). These studies, more or less, revealed that experienced teachers are much more sensitive to contextual clues and, in turn, are more prepared for and responsive to the events threatening the discipline and flow of instruction.

Findings Related to Knowledge of Professional Self

As the univariate comparative results revealed, the novice teachers' knowledge of professional self was lower than that of their experienced counterparts. In the absence of empirical evidence for the findings relevant to this knowledge area, the intellectual dominance of the experienced teachers over the novice ones could be justified by the qualitative results drawn from the interview data. As shown by the results, conceptual differences were found between the novice and experienced teachers in both domains of knowledge of professional self, namely knowledge of personal characteristics/qualities and knowledge of professional relations. The experienced teachers expressed that they often take full advantage of their knowledge of personal characteristics and qualities to pursue a wide range of objectives such as materials/tasks development, content adaptation, and course implementation. Nonetheless, the novice teachers' use of this knowledge was confined to surmounting the potential obstacles to realizing an effective teaching practice. Concerning knowledge of professional relations, novice teachers of the study utilized it to serve self-improvement purposes such as enhancing their pedagogical knowledge and teaching quality. In contrast, the experienced ones preferred to increase their contextual plausibility. In sum, the novices' limited and personal use of knowledge of professional self, compared with the experienced teachers' wide-ranging and multi-purpose use of this knowledge, may account for their significantly lower degrees of self-efficacy in cognitive resources pertinent to professional self.

Conclusion

The findings of the current cross-sectional study prepared the ground for speculating that novice Iranian EFL teachers are well on the road to cognitive efficacy, thanks to their intimate knowledge of technology use and due regard for ongoing professional development. Unlike Iranian EFL teachers in the middle or at the end of their teaching life, those who recently began teaching seem to enjoy lower levels of classroom management and professional relations. This inferiority is mainly sparked by little familiarity with alternative and in-process planning, scant regard for workable preventive policies to surmount the obstacles to class discipline and task completion, lack of intimate knowledge of coming up with context-relevant solutions, and limited use of professional relations for self-improvement purposes.

Armed with rich pedagogical knowledge, Iranian EFL teachers will likely reach the summit of their cognitive efficacy in the middle years of the teaching profession. This optimum intellectual efficacy stems from the adequacy of their knowledge of teaching, classroom management, and professional self. Moderately experienced Iranian EFL teachers need to improve their knowledge of learning along the road. To this end, they need to gain adequate knowledge about various learning activities/processes well suited to students' proficiency levels and learning needs; hybrid and rarely-used (novel) strategies required for monitoring learning problems/progress; and different arrays of correction policies appropriate to students' proficiency, task type, and error type. However, the optimum sense of efficacy felt in the middle of a teaching life is very prone to decline somewhere on the

road due to poor digital literacy, scant regard for continuous professional development, and a lack of concern for helping learners cultivate 21st-century skills.

The current study's findings may propose several implications for scholars and educators involved in EFL teaching and learning. First, the contributory role of PKB 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. The wide-ranging comparative scheme developed by the current study may also have several implications for those involved in EFL pedagogy. Paving the way for acquiring a thorough knowledge of the cognitive patterns either shared among or peculiar to novice, moderately experienced, and highly experienced teachers, the detailed and in-depth comparative results drawn from the current study may offer policymakers and curriculum developers the chance to successfully embark on a practical course design and content development enterprise. Pre-service and in-service courses targeted at improving the sense of cognitive efficacy among EFL teachers of various experiential classes could be inspired by the merits and demerits peculiar to each class. For instance, pre-service courses targeted at teacher trainees might feature adequate instruction to foster the intellectual resources required for successful classroom management and effective use of professional relations. The comparative findings of the study could also profit Iranian EFL teachers belonging to each of the three classes investigated in the current study to model themselves on those enjoying an optimum sense of efficacy in terms of cognitive aspects underlying their teaching performance. More specifically, the comprehensive-scope comparative set of evidential data, showing the similarities and dissimilarities in mental aspects influential in teachers' perception of high-quality teaching practice, may provide those involved in the Iranian TEFL context with a self-assessment scale that could set them on the road to efficacy.

Like any other context-specific small-scale research, generalizations about the current study's findings need to be made cautiously, owing to several practical limitations in selecting a large-number representative sample of Iranian EFL teachers. Additionally, the heterogeneity of the participant sample in terms of gender, social class, educational degree, and cultural beliefs could hamper the authenticity of the findings. Hence, the replication of the work in various local settings (i.e., universities, high schools, and language institutions) needs to be undertaken with an inclination to overcome the limitations of the current study. The findings from other similar-context studies may achieve more credible and authentic results. The study also needs to be replicated in other EFL contexts worldwide to reach context-free findings, which could be generalized to the broad population of novice and experienced EFL teachers. Inspired by the multidimensional, dynamic, and non-linear changes EFL teachers experience in their pedagogical knowledge base while gaining pedagogical experience, researchers interested in the field could explore the association between teaching experience and other mental constructs such as teaching reflection and metacognition from a complex-system perspective.

Conflicts of Interest

No conflicts of interest declared.

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Appendix A.

The Study Framework and Participants

Table A1.
Domains and Subdomains Underlying PKB based on Dadvand and Behzadpoor's (2020) Model

Domain	Subdomain
KoSM	Knowledge of language learning skills and components (grammar, vocabulary, pronunciation, reading, writing, listening, and speaking)
KoSt.	Knowledge of personal characteristics, general competencies, cultural background and preferences, learning skills, interests, and motivation Knowledge of effective student-teacher relationships and differences/similarities between students' first language and the target language
KoTch.	Knowledge of teaching goals, teaching approaches/methods, teaching techniques, lesson planning techniques, technology use, knowledge expansion strategies
KoLrn.	Knowledge of processes/activities that facilitate language learning, strategies for being aware of students' learning, ways of dealing with learners' errors
KoTst.	Knowledge of theoretical tenets of language assessment procedures, practical principles of designing and grading various language exams, different methods of progress/achievement evaluation, washback effect
KoCM	Knowledge of managing class time and threats to class discipline/task completion
KoEC	Knowledge of available teaching/learning resources, curriculum requirements, institution policies, and instructional materials
KoDED	Knowledge of sociocultural/sociopolitical context of instruction, the power dynamics related to language use, and marginalization/discrimination issues
KoPS	Knowledge of personal characteristics/qualities and professional relations

Table A2.
Demographics of the Participants

Phase	Group	N	Gender	Age Mean	Self-assessed Proficiency Level	Academic Degree
Survey	Novice	148	Female:87 Male:61	25.2	Very Advanced:23% Advanced: 63% Upper-intermediate: 14%	TEFL: 62% Other Majors: 38%
	ME	121	Female: 75 Male: 46	31.3	Very Advanced:25% Advanced: 66% Upper-intermediate: 9%	TEFL: 59% Other Majors: 41%
	HE	113	Female: 41 Male: 72	39.2	Very Advanced:20% Advanced: 75% Upper-intermediate: 5%	TEFL: 49% Other Majors: 51%
Interview	Novice	43	Female:25 Male:18	24.7	Very Advanced:32% Advanced: 40% Upper-intermediate: 28%	TEFL: 71% Other Majors: 29%
	ME	29	Female: 14 Male: 15	30.1	Very Advanced:29% Advanced: 57% Upper-intermediate: 14%	TEFL: 61% Other Majors: 39%
	HE	23	Female: 12 Male: 11	40.01	Very Advanced:25% Advanced: 65% Upper-intermediate: 10%	TEFL: 44% Other Majors: 56%

Appendix B.

Semi-structured Retrospective Interview

Dear Mrs./Mr.……;

Many thanks for your earlier collaboration with the project. It would be appreciated if you could proceed with the research and answer the follow-up questions I will ask you. We need to know your further explanation regarding the reasons, processes, and principles that underlay your comments previously made through the Likert scales. You will kindly help me by explaining (for at least one minute) why you chose the scales for each survey item relevant to the interview questions. Please describe the reasons in detail.

1. How do you describe your knowledge of language learning progress and problems? Please elucidate on the issue by describing the processes involved in language learning, the activities required to facilitate learning, the policies adopted to know students' task involvement level, progress, and difficulties, and the ways of tackling students' errors.
2. How can you portray your knowledge of second language teaching in terms of teaching goals, approaches, techniques, and methods; lesson planning techniques; technology-aided teaching tools; and knowledge expansion methods/techniques?
3. What level do you think you are at in classroom management? Please elaborate on your answer, explaining how you manage the class time and the potential threats to class discipline and task completion.
4. How do your personal features/qualities, values/preferences, and professional relations with your colleagues/superiors and students' parents affect your teaching practice?

Appendix C.

Summary of the Interview Transcripts

Table C1.

Interview Results Related to Knowledge of Learning

Micro Feature	Summary of the Responses	Code
Processes/Activities Facilitating Language Learning	Learning in the EFL context is mainly triggered by receiving content-relevant instructions and is reinforced through individual/group content-enhancement tasks.	Receiving instruction followed by both individual and interactive tasks
	What leads to steady learning progress is receiving instruction through lecturing and mastering the content through repetition	Receiving instruction followed by repetition
	Along with receiving instruction on the target content, involving learners in content-relevant group projects which simulate real-life situations language use triggers processes that underlie language learning	Receiving instruction followed by group projects promoting authentic language use
	Involving learners in collaborative productive tasks immediately after receiving content-relevant explanation (instruction)	Collaborative production immediately after receiving the target content
	The type of processes involved in language learning depends on learner proficiency levels (e.g., receiving instruction and repetition for beginners, receiving instruction and collaboration for intermediate learners, and self-study (analysis) of the target content followed by teacher-guided language use in real situations for advanced learners)	Receiving instruction followed by repetition/ collaboration/authentic language use (contingent on learners' proficiency level)

Micro Feature	Summary of the Responses	Code
	Language learning among low proficiency learners took place through teaching discrete linguistic elements as separate lessons (focus-on-forms), whereas the use of planned and incidental focus-on-form techniques (directing learners' attention to linguistic features arising incidentally throughout meaning driven tasks and activities) is more beneficial to the high proficiency students' learning.	Focus-on-forms and focus-on-form techniques (contingent on learners' proficiency level)
	The best way of facilitating English learning in the Iranian EFL context is the traditional model whereby isolated units of forms are conveyed to learners one by one through pre-planned authentic-material lessons.	Focus-on-forms techniques

Table C1 (Continued).
Interview Results Related to Knowledge of Learning

Micro feature	Summary of the Responses	Code
Strategies for being aware of Student Learning	I am totally aware of my students' progress and difficulties through short-time oral/written class quizzes (called also formative assessment and in-process evaluation)	In-process evaluation
	Asking learners to work collaboratively in small groups and continuous observation helps me to have an overall picture of my learners' progress in language learning as well as the salient impediments to their progress.	Monitoring learners' performance in groups
	Random questioning from learners helps me to make sure of students' active involvement in language learning tasks to some extent.	Random questioning
	By continuously observing the learners' individual and interactive performance and using low-stakes classroom assessments I can gain a good understanding of the learners' achievements and/or difficulties.	A combination of Performance observation and in-process evaluation
	Taking advantage of various individual/interactive content-enhancement tasks in every session, I am aware of my students' learning progress/difficulties as well as their active/inactive involvement.	Promoting learner involvement in content-enhancement tasks
Ways of dealing with learners' errors	I know how to provide learners with CF without disrupting classroom communication (implicit CF).	Implicit CF
	I often use a mixture of implicit and explicit CF techniques: self-repair techniques such as clarification requests during individual content-enhancement tasks, peer-correction techniques during collaborative content-enhancement tasks, and teacher-correction implicit and explicit techniques during meaning-focused and form-focused learning activities.	A mixture of implicit and explicit CF (contingent on task types)
	I deeply believe that type of CF well suited to the learners heavily depends on their proficiency levels: explicit correction is much more beneficial to beginners, metalinguistic feedback well suits intermediate learners, and recast and clarification requests profit advanced learners to reformulate the ill-formed utterance.	Either implicit or explicit CF (contingent on learners' proficiency levels)
	The type of CF I used is contingent upon the type of errors made by the learners: common and minor errors (e.g., agreement *s)* need to be corrected through implicit types of CF and errors but serious structural errors (e.g., ill-formed past perfect tense) need to be corrected through explicit corrective techniques.	Both implicit and explicit CF (contingent on learners' errors)

Table C2.
Interview Results Related to Knowledge of Teaching

Micro Feature	Summary of the Responses	Code
Teaching goals	Helping learners develop both receptive and productive skills based on the overall objectives of the course.	Fostering students' language skills
	Creating a plausible learning environment in which learners not only learn but also enjoy interacting with their classmates and teacher.	Creating a plausible learning Environment
	Helping learners cultivate both language learning skills and 21st-century skills (critical thinking, life & career skills, media/information/technology skills, etc.) in a friendly and interactive learning environment.	Helping students cultivate both language learning and 21st-century skills in an interactive learning Environment
	Forging a good relationship with students and exploiting the relationship to accelerate the rate of language learning among them.	Forging effective relationships with students to foster language learning
Teaching Approaches/Methods	I mainly adopt approaches that put a focal focus on learners and their specific requirements. My teaching practice, therefore, is impressed by the decisions made by the learners to a great extent. Nonetheless, there are some occasions in which the class activities center on my own decisions instead of collective ones.	A combination of learner-centered and teacher-centered approaches
	Teaching approaches I mainly adopt in my classes are those whereby either learners or the subject matter are given primacy	Learner-centered and/or Subject matter-centered approach
	I avoid approaches assuming that teachers' voices should dominate the flow of the whole class (teacher-dominated approaches), instead, I prefer to adopt learner-centered approaches.	Learner-centered approach
	I know how to use various interactive approaches that encourage content learning through an effective learner-learner and learner-teacher interaction	Interactive approach
	As for high proficiency learners, I really welcome collaborative approaches to language learning which focus on learning through group discussion, teamwork, and partnership. To teach low proficiency, there may be a need to adopt more individualistic approaches.	Either a collaborative or Individualistic approach (contingent on learners' proficiency)
	I have adequate knowledge about how and when to use one or more of the approaches enumerated in the survey item (i.e., presentation, explanation, translation, etc.)	One or more of the approaches exemplified in the survey item
	Direct approaches to language teaching (directly demonstrating the target content) well suit intermediate and advanced learners, whereas guided approaches are more suitable for beginner earners.	Either direct or guided (indirect) approach (contingent on learners' proficiency)
	Along with the teaching strategies enumerated in the item I usually adopt a problem-based approach to language teaching whereby a great proportion of the class time is devoted to solving a topic-relevant pre-planned problem	The whole range of approaches enumerated in the survey item along with a project-based approach

Table C2 (Continued).
Interview Results Related to Knowledge of Teaching

Micro Feature	Summary of the Responses	Code
Teaching Approaches/Methods	I usually adopt a task-based approach to language teaching in single-skill courses but a communicative approach to teaching a multi-skill course.	Task-based language teaching
	Although I know how to use various ELT approaches such as (natural, audio-lingual, grammar translation, oral-situational, etc.), I mainly adopt a communicative approach, which is well applicable to the Iranian EFL context.	Communicative language teaching
	My adequate familiarity with various ELT approaches made it easy to deal with the eclectic methods prescribed by the institution(s) where I work.	Eclectic method
	I mainly use a mixture of the techniques enumerated in the item in my class.	A mixture of brainstorming, language games, and question & answer
Teaching techniques	For students of intermediate to advanced learners, I sometimes adopt a flipped technique in which students are promoted to be prepared for the lesson before coming into the class and the class time is devoted to content-enhancement tasks accomplishment.	Flipped teaching technique
	Techniques used in my class are contingent on learners' age range and proficiency level. Gamification, for instance, is a technique widely used in my classes for adolescence and young adult learners, whereas group discussion is mainly used in my classes for adults.	Age-appropriate teaching techniques
	Techniques used in my class are contingent on the subject matter. For a speaking course, I may use free discussion as the salient technique while in a multi-skill course, a mixture of different skills could be utilized evenly in class.	Subject matter-appropriate teaching techniques
	I take advantage of social media to encourage learners to further communication and language use.	Language-mediated communication through social media
Lesson Planning Techniques	I know a precise lesson plan is an easy-to-follow timetable including a variety of learning and assessment tasks and the materials/instruments required to accomplish them.	An easy-to-follow timetable including both class activities and the required materials/instruments
	A good lesson plan is the fruit of a four-step process including setting lesson objectives; planning warm-up, learning, in-process assessment, and concluding activities; sequencing, and creating a realistic timeline.	A conventional four-step lesson plan
	I know how to effectively plan for lessons taking advantage of teacher's books prescribed by the institutes	The prescribed lesson plan is designed based on teachers' guidebooks
	The lesson plan I prepare for every particular session includes the prominence-ordered classroom activities required to cover the target content. Nonetheless, the timing and real order of these activities as well as the supplementary tasks will be planned based on the needs that arise throughout the instruction.	A flexible prominence-ordered list of activities that provides room for in-process planning

Table C2 (Continued).
Interview Results Related to Knowledge of Teaching

Micro Feature	Summary of the Responses	Code
Technology use	I know how to make use of various instructional online/offline ICT tools to effectively manage my virtual classes.	Familiarity with various ICT tools (both online and offline)
	I know how to use the specific online/offline ICT tools defined by the institution where I teach.	Familiarity with the prescribed ICT tools (both online and offline)
	I know how to make technology-aided audio/video tutorials as well as online/offline tests/quizzes to hold my virtual classes or to integrate them into my real classrooms.	Knowing how to make technology-aided audio/video tutorials as well as online/offline tests/quizzes
	Sometimes I need to consult an IT expert to satisfy the technological demands of today's technology-aided classes.	Consulting an IT expert about technological issues
Knowledge Expansion Techniques	To expand my knowledge of teaching I occasionally participate in international/local ELT seminars or conferences	Participating in international/local ELT seminars/conferences
	I'm expanding my teaching knowledge by studying teaching TEFL at a higher education university (Ph.D./MA courses)	Studying TEFL at a higher education university
	Owing to my involvement in academic contexts (university) I often read recently-published ELT books/articles.	Reading recently-published ELT books/articles
	I seek to expand my teaching knowledge repertoire by reading recently published ELT books and articles as well as surfing the net for credible information about recent approaches to ELT teaching.	Reading recently-published books/articles in combination with surfing the Internet for credible information available online
	Making use of one or more of the strategies exemplified in the survey item, I embark on teaching knowledge expansion.	A mixture of techniques including reflection, journal writing, and observation
	To add to my expertise, I take advantage of different techniques including surfing the Internet, reading publications, and participating in ELT conferences and seminars.	A mixture of techniques including surfing the Internet, reading publications, and participating in ELT conferences and seminars
	Along with one or more of the strategies exemplified in the survey item, I use credible online materials and scientific publications to improve in terms of teaching knowledge.	A mixture of techniques including reflection, journal writing, observation, using credible online materials, and reading scientific publications
	I attend the in-service teacher training courses to get acquainted with the latest ELT techniques and strategies applicable to the context I'm engaged in.	Attending in-service teacher training courses

Table C3.
Interview Results Related to Knowledge of Classroom Management

Micro Feature	Summary of the Responses	Code
Class Time Management	I manage my class time effectively preparing a precise and comprehensive lesson plan.	Preparing a lesson plan and implementing it
	Although I prepare detailed lesson plans before every individual session, what helps me to effectively manage class time is my flexibility to include alternative tasks/activities in cases where each of my pre-planned goals could not be realized.	Implementing the preplanned activities or, failing that, implementing the alternatives
	I usually list the teaching tasks/activities in order of priority. This way I make sure that the most prominent tasks will be surely accomplished.	Providing a priority-ordered list of classroom activities
	Despite my regular preparation for lesson plans and timetables, the slow flow of learning progress on the part of poor-performance students and/or crowded classrooms inhibit effective management of time to a great extent. I try to be responsive to the needs of learners and adapt my plan accordingly.	Being responsive to the peculiarities of the teaching context through in-process planning
Management of the Threats to Class Discipline and Task Accomplishment	I usually have the foresight to plan potential crises. This helps me to either avert or handle/overcome the actually-occurred crises I face in my class.	Anticipating the potential crises and problems and thinking about the probable solutions thereof
	The plausible environment I usually create in my classroom prevents potential crises to a great extent.	Creating a plausible environment to inhibit serious crises
	In the introductory sessions of every particular course, I try to gain a good understanding of the salient personal features of my students as well as the peculiarities of the learning context and situations. this way I am often cognizant of the potential threats from students, and the solutions thereof	Gaining a clear understanding of the learners' personal features
	I use one or a combination of the strategies enumerated in the survey item (identifying disturbing behavior, reprimanding, and regrouping students),	Using one or more of the strategies exemplified in the survey item, based on the peculiarities of the situation
	Taking advantage of my personal traits such as patience and flexibility I can easily meet the potential threats to discipline and task achievement, respectively.	Exploiting my patience and flexibility to meet any potential threat to tackle the threats
	The good relationship I usually forge with my learners helps me to easily overcome any threat to class discipline from students	Taking advantage of friendly (teacher-student) relationships to handle the crises

Table C4.
Interview Results Related to Knowledge of Professional Self

Micro Feature	Summary of the Responses	Code
Personal Traits/Qualities	My good understanding of my personality traits, affective features, and personal values helps me to be well adapted to a prescribed curriculum or develop a lesson plan based on my own personality and preferences.	personalizing the pre-scribed curriculum
	I know how my enthusiasm for teaching and sympathy for students help me surmount the wide range of obstacles in the way of EFL teachers.	Surmounting the potential obstacles to realize an effective teaching practice
	I believe that my pedagogical qualities, genuine concerns for promoting authentic language use, and awareness of English language speakers' cultural values/norms let me design authentic content-enhancement tasks and activities beneficial to language growth.	Designing authentic tasks/materials
Professional Relations	I think friendly relations with colleagues may pave the way for the expansion of teaching knowledge (through negotiation and collaboration)	Expanding pedagogical knowledge through negotiation and collaboration with my colleagues
	Establishing good relations with my superiors let me benefit from their personal experiences and, as a result, replicate their success.	Benefiting from teaching professionals' advice and experience
	An effective parent-teacher relationship helps the teacher to have a better understanding of the learner's progress and the impediments to it.	Gaining a better recognition of the learners and their capabilities/difficulties through an effective parent-teacher interaction
	I am not sure, but I think effective professional relations could serve as a pillar of a plausible working environment where both teaching and learning are very likely to meet with success.	Exploiting professional relations to create a pleasant workplace
	All sorts of professional relations exemplified in the survey item may empower amateur teachers to improve their teaching quality and consolidate their position as leading members of the local teaching community.	Taking advantage of professional relationships with colleagues, supervisor(s), and parents to improve the quality of teaching