



Research Article

The Relationship between Iranian English Language Teachers' Professional Identity and Teacher Cognition in their Professional Development: A Quantitative Study

Najmeh Bagheri ¹, Mohammad Reza Esfandiari ², Forough Rahimi ³

1, 2. Department of Foreign Languages, Shiraz Branch, Islamic Azad University, Shiraz, Iran

3. Department of English Language, School of Paramedical Sciences, Shiraz University of Medical Sciences, Shiraz, Iran

* Corresponding author: Mohammad Reza Esfandiari, Email: esfandiari.mreza@gmail.com

ARTICLE INFO

Submission History

Received: 2024-01-15

Accepted: 2024-04-08

Keywords

Teacher cognition

Teacher professional identity

Teacher professional development

ABSTRACT

This study investigated the relationship between Iranian English language teachers' professional identity and teacher cognition in their professional development. To investigate the current issue, the current study applied the quantitative methods approach of data collection. The participants of this study comprised 100 Iranian EFL teachers from some institutes and schools. The study included 100 English language teachers with 50 females and 50 males, aged above 24. To this end, three types of instruments were applied to collect research data. They are described as follows: Teacher Professional Identity Scale (TPIS), Horwitz's beliefs questionnaire about language learning Inventory (BALLI), Teacher professional development. Three data analyses were used in this study: Kolmogorov-Smirnov (Normality), Cronbach's alpha (reliability), Pearson correlation (relationship). The findings indicated that there was a positive relationship between teacher cognition and teacher professional development. This analysis revealed that teacher cognition and professional identity had a significant relationship with professional development. The findings can support EFL policymakers, supervisors, managers, and teacher trainers to grasp a better picture of teacher cognition, teacher professional identity in their professional development.

Introduction

Teachers are considered as the most important component of any system of education; therefore, understanding their perceptions and beliefs are of significance because they practice educational

theories in the classrooms (Eslami & Fatahi, 2008). Since it has been indicated that the notion of teacher professional identity is highly germane to teachers' growth (Sheybani & Miri, 2019), some of the relevant variables that can affect Teacher

Professional Identity (TPI) like teachers' motivation, commitment, efficacy, adjustment, and satisfaction in their job (Danielewicz, 2001) were taken into consideration. Research in identity offers ideas about the components that influence the inclination of an individual to a particular profession (Tsakissiris, 2015). According to Bressler and Rotter (2017), TPI is considered to be built and developed by the interplay between various contexts and the self, which gives rise to TPI's connection to social and personal aspects.

Derakhshan et al. (2020) explain that teacher identity is dynamic and creates a balance between their understanding self in their profession with their roles as teachers. Based on Borg's (2006) definition, second language teacher's cognition (SLTC) is "an often tacit, personally-held practical system of mental constructs held by teachers and which are dynamic—i.e. defined and refined based on educational and professional experiences throughout teachers' lives" (p. 35). The researchers and experts in teacher education have paid a large amount of attention to SLTC. The data reported in the literature shed more light on the modules and components of teachers' beliefs and knowledge, the way their cognitions have extended, and how they are expressed in their classroom practices (Borg & Burns, 2008; Borg, 2006).

It is obvious that changes in technology and knowledge production in the 21st century, namely the information era, are becoming more difficult yet necessary. In the current century, knowledge and technology are considered to be the power affecting individual and social lives. In societies that have undergone the information age, gradually the definition of the teaching profession has changed, and education has been monopolized contrary to the industrial societies where mass media have no active role. The social and technological transformation has imposed an "educational" function on the institutions, which are considered to be information resources of society, and which enable individuals to learn. New media such as the Internet, television, newspapers, and magazines have challenged and competed against the mainstream power assigned to the teaching profession (Özkan, 2011).

Professional development is a process that helps teachers improve their professional knowledge, skills, and attitudes; thus, it encourages students' learning (Guskey, 2000). Learner success is the strongest motive for teachers to continue professional development.

The problem addressed in this article was the lack of awareness among teachers regarding their own beliefs about language learning and teaching, which significantly influence their instructional decisions and practices. These beliefs serve as a filter through which teachers make judgments, choose teaching strategies, interact with students, manage the classroom, and respond to various classroom conditions. The problem is exacerbated by the fact that teachers often attribute their effectiveness or ineffectiveness solely to students and the classroom environment, failing to recognize the role of their own beliefs shaped by factors such as training and professional development. Consequently, teachers are hesitant to participate in programs aimed at enhancing their pedagogical competence, as they do not perceive these programs as contributing significantly to their existing beliefs and subsequent teaching practices.

The professional development of in-service teachers plays a crucial role in achieving the goals of educational reforms, leading to increased job commitment and satisfaction. Teachers who actively engage in professional development opportunities not only improve their own success but also contribute to enhanced student achievement. However, existing research has predominantly focused on the influence of language instructors' personality features on instructional performance, neglecting the examination of teachers' professional identity and cognition in relation to their professional development. This research gap is particularly evident in the context of Iran, where limited studies have explored the specific attitudes, knowledge, beliefs, and professional identity of Iranian EFL teachers and their impact on professional development.

The first purpose of the study was to examine the effects of Iranian EFL teachers' professional identity on their professional development. Moreover, the purpose of the study is to investigate

the impacts of Iranian EFL teachers' cognition on their professional development.

Research Questions and Hypotheses

RQ1: Is there any relationship between Iranian EFL teachers' professional identity and their professional development?

RQ2: Is there any relationship between Iranian EFL teachers' cognition and their professional development?

H01: There is no relationship between Iranian EFL teachers' professional identity and their professional development.

H02: There is no relationship between Iranian EFL teachers' cognition and their professional development.

Review of Literature

Gee (2000) defined teacher identity as "an important analytic tool for understanding schools and society" (p. 99). It is stated that teachers' identity can be implemented as a frame through which aspects of teaching can be investigated (Beauchamp & Thomas, 2009). The utilization of the term 'professional' aids in distinguishing professionals from non-professionals. Teacher professional identity is the means through which teachers define their professional characteristics (Lasky, 2005). More recently, Borg (2017) defined teacher professional identity in terms of the professional roles teachers and others believe they should fulfill. Teacher cognition refers to the unobservable cognitive dimension of teaching; what teachers know, believe, and think. Teacher cognition, which is initially shaped by a teacher's schooling and professional experiences, refers to cognitive constructs such as knowledge, beliefs, and thoughts. (Borg, 2003, 2013).

Bailey (1996) reported a research project in which seven MA candidates and a teacher educator investigated the role of their language learning experiences in shaping their current teaching practices and philosophies through autobiographical writing and reflection on it. As a result, the writers recognized several s related to teaching and learning contexts which had made their own language learning experiences positive: "(1) teacher personality and style mattered more

than a methodology; (2) teachers were caring and committed, and had clear expectations of their students; (3) teachers respected, and were respected by the students; (4) as students, their motivation to learn enabled them to overcome inadequacies in the teaching; and (5) learning was facilitated by a positive classroom environment" (p. 20).

Various terms coined in the literature for professional development (PD) are encountered. These include continuing education, professional development, professional learning, in-service training, continuous professional development, career-related continuous learning, professional advancement, and personnel development. "Professional development, in a broad sense, refers to the development of a person in his or her professional role" (Villegas-Reimers, 2003, p. 11)

Pinar, Bardakc, and Arslan (2021) investigated the factors influencing teachers' professional learning the most among four factors; (a) Teacher cognition and beliefs, (b) teacher emotions, (c) teacher motivation, and (d) contextual variables and found out whether or not there is a difference among teaching experience and a degree in terms of teacher learning. According to the results, teacher cognition and beliefs factors influenced teacher learning the most, and contextual variables were the second influencing factor. When the differences were examined it was found out that there was a significant difference only between teacher cognition and beliefs, and teacher experience.

Parsi and Ashraf (2020) conducted a study to discover the relationship among EFL teachers' critical thinking, professional identity, and teaching experience. The results revealed that there was a significant positive relationship between EFL teachers': (a) critical thinking and teaching experience, (b) professional identity and teaching experience, and (c) critical thinking and professional identity. Moreover, the results of a multiple regression showed that EFL teachers' teaching experience was a better predictor of their professional identity.

Derakshan et al. (2020) conducted a study to investigate the effects of English language teachers' professional identity and autonomy on their success. The results of the study showed that

teachers' professional identity and autonomy are highly beneficial to their success

Sugesti et al. (2020) carried out a study to discover the interplay between EFL teachers' cognition and their teaching practices. The result showed that there was a positive correlation between teachers' cognition and their teaching practices.

Methodology

Design of study

This research was a quantitative research design in nature. The research was centered on the study of variables that captured these common features and which were quantified by counting, scaling, or by assigning values to categorical data.

Participants

The participants of this study comprised 100 Iranian EFL teachers from some institutes and schools. The study included 100 English language teachers with 50 females and 50 males, aged above 24. To collect the required data, two groups of English language teachers teaching English at different state schools and private language institutes in Shiraz were selected through convenience sampling. Convenience sampling is defined as a method adopted by researchers where they collect market research data from a conveniently available pool of respondents. It is the most commonly used sampling technique as it is incredibly prompt, uncomplicated, and economical. Convenience sampling is a non-probability sampling technique where the sample is selected based on its availability and accessibility.

Instruments

To collect data for the present study, three instruments were utilized. They are described as follows: Teacher Professional Identity Scale (TPIS), Horwitz's beliefs questionnaire about language learning Inventory (BALLI), and teacher professional development.

Perceived teacher professional identity was assessed via Hashemi, Karimi, and Mofidi (2015) Teacher Professional Identity (TPIS) scale. The rationale behind choosing this study is that both reliability and validity were examined by Hashemi,

et al (2015). This scale involves 42 items to which participants provide their responses on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The scale consists of 10 subscales, namely having the ability to develop or select EFL materials (items 13,14,15,16), having error correction skills (items 21,22,23), having communication skills (items 24,25,26), being knowledgeable and up to date, Having respectful behavior (items 10,11,12), being concerned about student ability and development (items 38,39, 40), having management skills (items 17,18,19,20), having the ability to create a relaxed learning atmosphere (items1,2,3,4), having the tendency to impart knowledge and experience(5,6,7,8,9), and serving as effective role model (30,31). In order to establish the reliability of the questionnaire items, Cronbach's coefficient of internal consistency

was utilized. The Cronbach alpha coefficient calculated to check the internal consistency of this scale was.91 (Hashemi et al.,2021) which is considered as an indication of appropriate internal consistency of the items (see Pallant, 2011). Both reliability and validity were checked completely by (Hashemi et al., 2021). To ensure the reliability, the researcher checked it again (0.89).

To ensure the validity of the questionnaire, expert opinion was sought from two experienced researchers in the field. who were satisfied with the questionnaire and the content of the questionnaire.

Table 1.

Reliability statistics for teacher professional identity scale

Cronbach's Alpha	N of Items
.893	42

Horwitz's (1987) Beliefs About Language Learning Inventory (BALLI) is a research tool to examine the subjects' beliefs about English language learning. The BALLI evaluates beliefs about five language learning areas: (1) Foreign language aptitude, (2) the difficulty of language learning, (3) the nature of language learning, (4) learning and communication strategies, and (5) motivations and expectations. The BALLI has 34 items. Thirty-two of them offer 5-point Likert-type responses, ranging from "strongly agree" to "strongly disagree": Strongly

agree (SA) = 5; Agree=4; Neither agree nor disagree (N) =3; Disagree (D) =2; Strongly disagree=1. The other two items; 4 and 14, are related to learners' rating of the difficulty level of English, ranging from very difficult, difficult, medium, easy, and very easy, and the amount of time needed to learn English very well. The Cronbach's alpha of the questionnaire was estimated by Abedini (2011) as .68. To ensure the reliability, the researcher checked it again, and its result 0.94 by Cronbach's alpha. To ensure the validity of the questionnaire, expert opinion was sought from two experienced researchers in the field. The questionnaire was modified based on their suggestions. The questionnaire was confirmed by both researchers. Both experienced researchers were satisfied with the questionnaire and the contents were matched with the objectives and subject of the study. The questionnaires exactly examined the teacher cognition, teacher professional identity and professional development.

Table 2.
Reliability statistics for teacher cognition questionnaire

Cronbach's Alpha	N of Items
.943	34

In this survey, professional development is defined as activities that develop an individual skills, knowledge and other characteristics as a teacher. Teacher professional development was assessed by Ayyoobi, Pourshafei, Asgari (2016). The rationale behind choosing this study is that both reliability and validity were examined by Ayyub, et al (2016). It consists of eight subscales Thematic knowledge (items 1,2,3,4,5,6,7,8,9), Learning Environment(items10,11,12,13,14,15), Cooperation (items 16,17,18,19,20), Educational technology(items 21,22,23,24,25,26), Research base(items 27,28,29,30,31,32) Educational planning(items 33,34,35,36,37) Evaluation(items 38,39,40,41,42) Development of human resources(43,44,45,46,47). Forty-seven of them offer 5-point Likert-type responses, ranging from "very much" to "very small": Very much = 5; much=4; average =3; small =2; very small=1. The questionnaire has both good reliability and validity.

To ensure the validity of the questionnaire, expert opinion was sought from two experienced researchers in the field. Both experienced researchers were satisfied with questionnaire and the content of questionnaire put the words well based on the objectives of the study. The questionnaire was confirmed by them.

Both reliability and validity were checked by Ayyub et al (2016). The Cronbach's alpha of the questionnaire was estimated by Ayyub et al.,2016 as .86. To ensure reliability, the researcher checked it again (0.91). The results of reliability tests also show that in all components Chronbach's alpha is more than 0.84 which is good and acceptable. Therefore, noting the results of factor analysis (exploratory and confirmative) and Cronbach's alpha we can conclude that the designed questionnaire is an appropriate tool for evaluating the degree of teachers' professional development (Ayyoobi, Pourshafei & Asgari, 2016)

Table 3.

Reliability statistics for teachers' professional development questionnaire

Cronbach's Alpha	N of Items
.911	47

Data Collection Procedure

To answer the research questions holistically, this study utilized one data collection tool: questionnaires. Questionnaire is the most popular research instrument in social sciences because of its capability to gather large amount of data quickly in a systematic manner (Dörnyei, 2007). For this study, three questionnaires were utilized. The method through which questionnaires were developed was in line with Dörnyei (2007) Standard Components. These components consisted of the following:

1) Title: This component identified the domain of the investigation and provided the respondent with initial orientation and activated relevant background knowledge and content expectations

2) General introduction: This component described the purpose of the study, describing to the participants that there are no right or wrong answers, explaining confidentiality or anonymity,

asking for honest answers; and appreciating their cooperation.

3) Specific instructions: This component clarified the whole process and explained to the participants the way of going through the procedure of answering the questions in the questionnaire.

4) Questionnaires items: This component consisted of some closed-ended items that required the respondents to produce specific writing. All the questionnaires were developed in English and had two parts. The first part was about the respondents themselves. The closed-ended items were designed on a 5-point Likert scale of agreement and frequency. Cronbach's alpha was employed to ensure the reliability of the questionnaire.

In addition, the content validity and the reliability of the questionnaires of the study was examined by asking different professors about the contents of the questionnaires. Moreover, the reliability of the questionnaire was examined by Cronbach's alpha. Tables 1, Table 2 and Table 3 report the results of reliability estimates of the questionnaires of this study, using Cronbach's alpha. The results indicate Alpha .893 for professional identity scale, Alpha .943 for teacher cognition and .911 for teacher professional development which indicate that these are reliable to be employed in this study. The construct validity of teacher professional development was examined by Ayyoobi et al (2016). They examined the reliability and validity by using Cronbach's alpha and construct validity by using of exploratory and confirmatory factor analysis. According to the results, a factor analysis of the eight factors (components) was identified for professional development of teachers which explains a total of 54/69% of total variances. It can be concluded that the questionnaire would be a suitable tool for the professional development of teachers. The construct validity of the teacher's professional identity was examined by Hashemi (2021). They came to this conclusion that the questionnaire would be a suitable tool for the professional development of teachers.

For the purpose of the study, 50 males and 50 females from institutions and schools were chosen

to investigate the relationship between Iranian EFL teachers' professional identity and their professional development, and the relationship between Iranian EFL teachers' cognition and professional development.

First of all, permission was obtained from the authorities of high school and language institutions to collect data. The teacher professional identity scale was distributed to the participants to complete it. Participants were provided with the necessary instructions regarding the questionnaire's completion. Moreover, the purpose of administering the questionnaire was explained. Participants were required to complete the part allocated for demographic information such as age, gender, etc. Afterward, Horwitz's beliefs about the language learning Inventory (BALLI) was distributed to the same participants. The third instrument about teacher professional development was distributed among participants.

Data Analysis Procedure

To assess whether our data were distributed normally or not, the Kolmogorov-Simonov was run (Pallent, 2016). Cronbach's alpha was also used to estimate the reliability of the questionnaires. To investigate the relationship among teachers' professional identity, teacher cognition, and their professional development, the Pearson correlation procedure, through SPSS software version 21, was run.

Results

This section relates to the descriptive and inferential statistics obtained through the questionnaires. The findings are displayed in the following tables, followed by their interpretations.

Tests of Normality

A normality test is used to determine whether sample data has been drawn from a normally distributed population (within some tolerance). A number of statistical tests, such as the student's t-test and the one-way and two-way ANOVA require a normally distributed sample population.

Table 4.
Tests of Normality (One-Sample Kolmogorov-Smirnov Test)

		Cognition	Identity	Prof_Dev
N		100	100	100
Normal Parameters ^{a,b}	Mean	155.50	189.95	193.44
	Std. Deviation	4.743	7.663	15.009
Most Extreme Differences	Absolute	.082	.071	.096
	Positive	.082	.049	.096
	Negative	-.069	-.071	-.064
Kolmogorov-Smirnov Z		.820	.707	.963
Asymp. Sig. (2-tailed)		.512	.700	.312
a. Test distribution is Normal.				
b. Calculated from data.				

Table 4 showed the results of the Kolmogorov-Smirnow statistics. This assesses the normality of the distribution of scores. A non-significant result (Sig. value of more than .05) indicates normality. In this case, the Sig. value of teacher cognition is .512, more than 0.5, suggesting the assumption of normality.

The Sig. value of teacher professional identity is .700, more than 0.5, suggesting the assumption of normality. The Sig. value of teacher professional development is .312 which indicates normality. Three variables are perfectly normal.

Correlation between Iranian EFL teachers’ professional identity and their professional development

To answer the main research question, which was “Is there any relationship between teachers’ professional identity and their professional development?”, Pearson product-moment correlation was applied to data. The results are shown in Table 5 and Table 6.

Table 5.
Descriptive Statistics of teacher professional development and teacher identity

	Mean	Std. Deviation	N
Teacher professional development	205.4300	36.56826	100
Teacher identity	190.6400	29.93276	100

The first research question was about the relationship between two variables, teacher professional development and teacher professional identity. Both descriptive and inferential statistics

were done. First of all, Table 5 shows descriptive statistics of teacher professional development and teacher identity. Secondly, Table 6 shows inferential statistics of both variables. As Table 5 shows, the data were collected from 100 respondents. The mean of teacher professional development was 205.43 with a standard deviation of 36.56. The mean of teacher professional identity was 190.64 with a standard deviation of 29.93.

Table 6.
The correlation between professional development and teacher identity

Professional development	Teacher identity
1	.964**
	.000
.964**	1
.000	

** . Correlation is significant at the 0.01 level (2-tailed).
b. Listwise N=100

As displayed in Table 6, the participants are 100 cases. The direction of the relationship (positive or negative) is indicated by the sign of the coefficient. A positive correlation implies that increases in the value of one score tend to be accompanied by increases in the other. A negative correlation implies that increases in one are accompanied by decreases in the other. Table 6 shows that the Pearson correlation coefficient is 0.964 and positive, indicating a positive correlation between teacher professional identity and teacher professional development. This positive correlation implies that increases in the value of teacher professional identity tend to be accompanied by increases in the teacher professional development.

Table 7.

The correlation between professional development and teacher identity

		Professional development	Teacher identity
Professional development	Pearson Correlation	1	.964**
	Sig. (2-tailed)		.000
Teacher identity	Pearson Correlation	.964**	1
	Sig. (2-tailed)	.000	

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

b. Listwise N=100

As displayed in Table 7, the participants are 100 cases. The direction of the relationship (positive or negative) is indicated by the sign of the coefficient. A positive correlation implies that increases in the value of one score tend to be accompanied by increases in the other. A negative correlation implies that increases in one are accompanied by decreases in the other. Table 7 shows that the Pearson correlation coefficient is 0.964 and positive, indicating a positive correlation between teacher professional identity and teacher professional development. This positive correlation implies that increases in the value of teacher professional identity tend to be accompanied by increases in the teacher professional development.

As displayed in Table 7, the significant level is 0.00 and smaller than P- value that showed a

statistically significant relationship between Pearson’s degree of teacher professional identity and professional development (P=.01,.05). Thus, the null hypothesis (there was no relationship between teacher professional identity and professional development among EFL teachers) was rejected.

Correlation between teacher cognition and teacher professional development

To determine the relationship between teacher cognition and teacher professional development, a Pearson product moment correlation was applied to data. The results are presented in Table 8 and Table 9.

Table 8.

Descriptive Statistics of teacher cognition and teacher professional development

	Mean	Std. Deviation	N
Teacher Cognition	156.7400	20.58470	100
Teacher professional development	205.4300	36.56826	100

The second research question was about the relationship between two variables, teacher professional development and teacher cognition. Both descriptive and inferential statistics were done. First of all, Table 8 shows descriptive statistics of teacher professional development and teacher cognition. Secondly, Table 8 shows inferential

statistics of both variables. As Table 8 shows, the data were collected from 100 respondents. The mean of teacher cognition was 156.74 with standard deviation of 20.58. The mean of teacher professional development was 205.43with standard deviation of 36.56

Table 9.

The correlation between teacher cognition and teacher professional development

		Teacher cognition	Professional development
Teacher cognition	Pearson Correlation	1	.910**
	Sig. (2-tailed)		.000

		Teacher cognition	Professional development
Professional development	Pearson Correlation	.910 ^{**}	1
	Sig. (2-tailed)	.000	

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

b. Listwise N=100

As displayed in Table 9, the participants are 100 cases. The direction of the relationship (positive or negative) is indicated by the sign of the coefficient. A positive correlation implies that increases in the value of one score tend to be accompanied by increases in the other. A negative correlation implies that increases in one are accompanied by decreases in the other. Table 4.5 shows that the Pearson correlation coefficient is 0.910 and positive, indicating a positive correlation between teacher cognition and teacher professional development. This positive correlation implies that increases in the value of teacher cognition tend to be accompanied by increases in the teacher professional development

As displayed in Table 9, the significant level is 0.00 and smaller than P- value which showed a statistically significant relationship between teacher cognition and teacher professional development ($P=.01,.05$).

This analysis revealed that teacher cognition had significant relationship with professional development and one with higher teacher cognition was more successful in his or her professional development. Thus the null hypothesis (there was no relationship between teacher cognition and professional development among EFL teachers) was rejected.

Discussion

This analysis revealed that teacher professional identity had significant relationship with professional development and one with higher teacher professional identity was more successful in his or her professional development. As a result, it is crucial for every teacher to strive for a deeper understanding of the requirements and criteria that contribute to high-quality teaching systems. In simpler terms, teachers should actively enhance their educational professionalization in order to improve their overall experience and effectiveness

in the field. Noonan (2023) investigated an affinity for learning: teacher identity and powerful professional development. The results showed that professional identity is a durable (but malleable) filter through which teachers interpret professional learning.

Xu, Li, Sun (2022) investigated the relationship between professional identity, career satisfaction, value of competence and growth, and job burnout. The results indicated that career satisfaction mediated the relationship between teachers' professional identity and job burnout. When the scores for competencies and growth were high, teachers' professional identity exhibited the greatest predictive effect on burnout through career satisfaction.

Maftoon, and Siyyari (2022) investigated teachers' professional identity development. This study explored Prospective teachers' (PTs) professional identity development at different stages of learning to teach within a four-year Second Language (L2) initial teacher education program. The results of both quantitative and qualitative data analyses revealed that the second-year PTs' language awareness had a major contribution to the enactment of collective identity of language analyst and language user roles as part of their professional identity. Teaching practicum experiences also helped the third-year PTs develop a sense of belonging to the school community by aligning themselves with its rules and policies, which helped them develop their professional identity in a prescribed manner, informing institutionally situated identity of formal teachers. The fourth-year PTs' identification of themselves with regard to their prospective learners' needs was also the identity development observed in the form of a learner-oriented attitude towards learners as whole persons, all conducive to imagined future identity of needs analysts.

This analysis revealed that teacher cognition had significant relationship with professional development and one with higher teacher cognition was more successful in his or her professional development. Based on the findings, teacher cognition which is initially influenced by a teacher's educational background and professional experiences, encompasses cognitive factors like knowledge, beliefs, and thoughts (Brog, 2003, 2013). Professional development entails self-improvement through learning and training to advance one's career. While schools and institutions may provide training sessions for their teachers, teachers often engage in independent efforts to enhance their professional development. There are various ways in which teachers can pursue professional development, such as taking courses, attending workshops, or self-teaching new skills. Professional development also involves staying updated on emerging trends in the field and applying innovative practices to their current teaching methods. Professional development holds significance as it contributes to teachers' growth, making them more effective in their roles. This, in turn, can open up opportunities for career progression, such as promotions or better salaries. Moreover, schools and universities benefit from their teachers' professional development, as it showcases their dedication and potential for success. In light of the findings, these aspects are mutually reinforcing.

Li Li (2023) investigated a discursive psychological perspective on teacher cognition, investigating novice teacher cognition using applied conversation analysis. The data revealed the key themes in teachers' understanding of 1) focusing on linguistic knowledge, 2) establishing teacher authority, and 3) developing practical pedagogical knowledge. The findings reveal teachers' moment-by-moment cognition in interaction and multiple roles in facilitating learning.

Gao and Yang (2022) investigated a novice teacher to a teacher leader: An English as a foreign language (EFL) teacher's cognitions about her professional development.

In this article, a qualitative study was conducted on Jennifer. Findings suggest that Jennifer has clear cognitions about how she learned and improved,

i.e., the positive changes, in her professional journey and the facilitating factors that mediated her improvements and progress. These facilitating factors were found to include her teaching experience, in-service training, administrative promotion, drawing wisdom for reading Chinese classics, and constant reflection upon her English as a foreign language (EFL) teaching, etc.

Krulatz, Christison, Lorenz, and Sevinc (2022) investigated the impact of teacher professional development on teacher cognition and multilingual teaching practices. The findings suggest that the teachers displayed individual trajectories in the development of teacher cognition and practices. While one of the teachers showed considerable change over time, the other one remained more stable, suggesting that individual differences, such as language and family background, education, and teaching experience mediate the impact of PD.

Cao, Zhang, Liu, and Pu (2022) investigated exploring English for medical purposes (EMP) teacher cognition in the Chinese context. The results revealed significant differences in EMP teacher learning in terms of gender, differences in EMP teacher attitude and teacher support in terms of EMP teaching experience.

Blomeka, Jentsch, Ross, Kaiser, and Konig (2022) investigated the impact of teacher competence, instructional quality, and students' learning progress. The results revealed a mediating role of teachers' skills and their instructional quality in the relationship between teacher knowledge and students' learning progress.

Naturally, all studies have some limitations similar to the present one. One limitation related to the present study is that the sample was relatively small. Hence, the present research can be replicated with more participants in order to understand if the same or similar findings can be found. The next limitation has to do with the present study context, which was only Iran. Thus, any generalization of the findings should be made cautiously. Therefore, Future research should concentrate on other EFL contexts to explore any probable changes in the results.

Another limitation related as remarked by some scholars (Baker, 2014; Borg, 2003), studying teachers' cognitions (beliefs, thoughts, knowledge

and attitudes) is technically challenging. Delving into the cognitions of teachers needs more than one technique and research methodologies, and if appropriate methodologies were used to study this issue, one cannot claim that the insight gained is complete for sure. The present study investigated teachers' cognition and teacher identity in their professional development. In order to complement the findings of the present study, some further research can be suggested as follows:

Other studies will present more data about professional development activities in detail. Data collection can be performed with a larger number of teachers. Greater and more active teachers more likely result in better understanding of their attitude, knowledge, perceptions, and beliefs about their pedagogical practices and professional identity in their professional development activities

The study may be conducted using other methodologies, populations, and settings. Similar studies are critically needed in order to see whether the results will be the same as or different from the results of the present study.

Conclusion and Implications

In this study, to investigate the relationship between Iranian English language teachers' professional identity and teacher cognition in their professional development. Teacher professional identity had a significant relationship with professional development and one with a higher teacher professional identity was more successful in his or her professional development. Teacher cognition had significant relationship with professional development and one with higher teacher cognition was more successful in his or her professional development. The results and findings of this study can have some implications for language teachers, EFL students, managers of English language institutes. The results are hopefully advantageous to various individuals and organizations, as they can benefit from the findings of the research.

Educational policymakers should consider the applicability of the teacher cognition, and teacher professional identity in their professional development. Policymakers can design policies that promote reflective practices, self-awareness, and

ongoing professional development opportunities for teachers. By recognizing the importance of teacher cognition and professional identity, policies can be created to provide adequate resources, time, and support for teachers' continuous learning.

Understanding the role of professional identity can encourage teachers to engage in collaboration and build professional learning communities. By connecting with colleagues who share their professional identity, teachers can exchange ideas, share best practices, and collectively pursue their professional development goals.

Syllabus designers can incorporate reflective and active learning strategies into the design of professional materials. This can provide opportunities for teachers to actively engage with their cognition, critically reflect on their beliefs, and apply new knowledge and skills in their teaching practice. Recognizing the diversity of teacher cognition and professional identities, syllabus designers can adopt differentiated approaches to cater to the specific needs and preferences of teachers. By offering a variety of learning opportunities and resources, syllabus designers can accommodate the diverse range of teacher cognitive processes and identities.

References

- Ahmad, I. (2018). Teacher cognition and grammar teaching in the Saudi Arabian context. *English Language Teaching*, 11(12), 45-57.
- Anning, A. (2020). Impact of teachers' professional development on students' academic performance in higher education, *International Journal of Advanced Education and Research*, 5(2), 50-57.
- Ayyoobi, F., Pourshafei, H., Asgari, A. (2016). Codification and validation of professional development questionnaire of teachers. *International Education Studies*, 9(4)214-224.
- Barkhuizen, G. (2016). Understanding language teachers' sense-making in action through the prism of future self-guides. In M. Kubanyiova (Ed.), *Reflections on language teacher identity research* (pp. 108-114). New York, NY: Routledge.

- Borko, H. and Putnam, R.T. (1995) Expanding a Teacher's Knowledge Base: A Cognitive Psychological Perspective on Professional Development. In Guskey, T.R. and Huberman, M., Eds., *Professional Development in Education: New Paradigms and Practices*, Teachers' College Press, New York, 35-65.
- Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, 39(2), 175-189.
- Borg, S. (2006). *Teacher cognition and language education: Research and practice*. London: Continuum.
- Borg, S., & Burns, A. (2008). Integrating grammar in adult TESOL classrooms. *Applied Linguistics*, 29(3), 456-482. <http://dx.doi.org/10.1093/applin/amn020>
- Borg, S. (2009). Introducing language teacher cognition. Retrieved from <http://www.education.leeds.ac.uk/research/files/145.pdf>
- Borg, S. (2003). Teacher cognition in grammar teaching: A literature review. *Language Awareness*, 12(2), 96-108. <https://doi.org/10.1080/09658410308667069>
- Borg, S. (2003). Teacher cognition in grammar teaching: A literature review. *Language Awareness*, 12(2), 96-108. <https://doi.org/10.1080/09658410308667069>
- Blomeke, S., Jentsch, A., Ross, N., Gabriele, K., & Konig, J. (2022). Opening up the black box: Teacher competence, instructional quality, and students' learning progress. *Learning and Instruction*, 79, 1-11.
- Bressler, C., & Rotter, C. (2017). The relevance of a migration background to the professional identity of teachers. *International Journal of Higher Education*, 6(1), 239-250.
- Casanova-Fernandez, M., Joo-Nagata, J., Dobbs-Diaz, E., Mardones-Nichi, T. (2022). Construction of teacher professional identity through initial training. *Education Science*, 12 (822), 235-270.
- Cao, Z., Zhang, Z., Liu, Y., & Pu, L. (2022). Exploring English for medical purposes (EMP) teacher cognition in the Chinese context. *Educational psychology*, 13(2), 350-370.
- Chang-Kredl, S., & Kingsley, S. (2014). Identity expectations in early childhood teacher education: Pre-service teachers' memories of prior experiences and reasons for entry into the profession. *Teaching and Teacher Education*, 43, (27).
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd Ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Craft, A. (2000). *Continuing professional development*. Routledge.
- Danielewicz, J. (2001). *Teaching selves*. New York: State University of New York Press.
- Derakhshan, A., Coombe, C., Arabmofrad, A., & Taghizadeh, M. (2020). Investigating the effects of English language teachers' professional identity and autonomy in their success. *Issues in language teaching*, 3(1), 1-28.
- Drage, K. (2010). Professional development: Implications for Illinois career and technical education teachers. *Journal of Career and Technical Education*, 25(2), 24-37.
- Eslami, Z. R., & Fatahi, A. (2008). Teachers' sense of self-efficacy, English proficiency, and instructional strategies: A study of nonnative EFL teachers in Iran. *Teaching English as a Second or Foreign Language*, 11(4), 1-19.
- Gee, J. P. (2000). Chapter 3: Identity as an analytic lens for education research. *Review of Research in Education*, 25(1), 99-125.
- Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.
- Hashemi, M., Karimi, M., Mofidi, M. (2020). Developing and validating an EFL teacher professional identity inventory. *Mextesol Journal* 45 (1), 1-18.
- Horwitz, E. (1987). Surveying students' beliefs about language learning. *Open Journal of Modern Linguistics* 8(5), 119-129.
- Gao, L., Yang, J. (2022). From a novice teacher to a teacher leader. *National Library of Medicine*, 13(2), 235-280.

- Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education, 21*(8), 899-916.
- Li Li. (2023). Cognition-in-interaction: A discursive psychological perspective of novice language teacher cognition. *The Electronic Journal for English as a Second Language, 27*(2), 230-270.
- Lorenz, E., Krulatz, A., Christison, M., & Sevinc, Y. (2022). The impact of professional development on teacher cognition and multilingual teaching practices. *International Journal of Multilingualism, 105*(2021), 1-14.
- Mahmoodarabi, M., Maftoon, P., & Siyyari, M. (2022). Learning to become L2 teachers: Prospective teachers' professional identity development. *Issues in Language Teaching 11*(1), 189-221.
- Noonan, J. (2023). An Affinity for learning: Teacher identity and powerful professional development. *Journal of Teacher Education, 70*(5), 526-537.
- Özcan, M. (2011). *Bilgi çağında öğretmen eğitimi, nitelikleri ve gücü, bir reform önerisi [Teacher education, qualifications and power in the information age, a reform proposal]*. Turkish Education Association.
- Parsi, G., & Ashraf, H. (2020). The relationship among EFL teachers' critical thinking, professional identity and teaching experience. *Journal of Applied Linguistics and Language Research, 7*(1), 144-154.
- Pinar, S., Bardaci, M., & Arslan, Y.F. (2021). Factors influencing teachers' professional learning. *Journal of Language and Linguistic Studies, 17*(1), 173-192.
- Pinar, W. F. (2012). Releasing the social imagination: Art, the aesthetic experience, and citizenship in education. *Creative Education, 4*(3), 25-57.
- PresMiller, J. (2009). Teacher identity. In A. Burns & J. C. Richards (Eds.), *The Cambridge guide to second language teacher education*, (pp. 172-181). Cambridge, UK: Cambridge University.
- Sheybani, M., Miri, F., & Walla, P. (2019). The relationship between EFL teachers' professional identity and their critical thinking: A structural equation modeling approach. *Cogent Psychology, 6*(1), 1-11.
- Sugesti, I., Rukimini, D., & Fitriati, S.W. (2020). Teachers' cognition and their teaching practices in an EFL classroom. *Advances in Social Science, Education, and Humanities Research, 443*, 563-566.
- Tan, C. Y., & Dimmock, C. (2014). *How a 'top-performing Asian school system formulates and implements policy: The case of Singapore*. Educational Management Administration & Leadership, 1741143213510507.
- Tsakissiris, J. (2015). *The role of professional identity and self-interest in career choices in the emerging ICT workforce* (A Submitted thesis in fulfillment of the requirements for the degree of Master of Business). The Queensland University of Technology.
- Villegas-Reimers, E. (2003). *Teacher professional development: an international review of the literature*. International Institute for Educational Planning.
- Xu, L., Li, X., Sun, Ch, Sun, B., & Weijian, L. (2022). Relationship between professional identity, career satisfaction, value of competence and growth, and job burnout: A cross-sectional study of primary and secondary school teachers in China. *Psychology in the schools, 60*(4), 1234-1248.
- Zarei, P., & Dobakhti, L. (2023). An exploration of Iranian teachers' professional and institutional Identities and their enactment of critical pedagogy. *Teaching English language, 17*(1), 1-28.