Teachers’ personal epistemological beliefs and their conceptions of teaching and learning: A correlational study

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Abstract: Epistemology has been investigated in different domains. In education, the epistemological beliefs have also been explored in terms of age, gender, fields of teaching, effect on learners’ reading comprehension, and learners’ learning strategies. Despite the plethora of studies on teachers’ epistemological beliefs, to the best of the researchers’ knowledge English as Foreign Language (EFL) teachers’ personal epistemological beliefs and conceptions of teaching and learning need further investigation. The present was an attempt to explore the correlation between EFL teachers’ epistemological beliefs and their conceptions of teaching and learning. Therefore, a correlational research method was used. Two validated scales were used for to collect the data. The data were analyzed through running one-sample-t-test and Pearson correlation. Results showed that EFL teachers’ perceptions of teaching and learning are positive and the correlation between the two variables is statistically significant (p < 0.05). The findings have implications for teachers and teacher educators.

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PUBLIC INTERESTS STATEMENT

Epistemological beliefs are viewed as socially constructed and students’ epistemological beliefs are said to be shaped by the way they interact with peers, instructors and the world. Research has also indicated that epistemological beliefs are associated with reading comprehension, academic goal setting, and attitudes toward school. Studies on the relationship between epistemological beliefs and conceptions of teaching and learning revealed a significant relationship between them in non-language disciplines. Teachers’ beliefs and conceptions play an important role in classroom decisions and teaching approaches. Investigating epistemological beliefs and conceptions of teaching and learning can lead to predicting teachers’ practice and performance in the classroom. Educational administrators who are in charge of holding pre-service and in-service programs can benefit from the results of this study in order to accommodate the results to their programs to educate teachers and student teachers. It can help administrators to understand that teachers and student-teachers have their own beliefs and they do not participate in pre-service and in-service programs with an empty mind.
1. Introduction

Epistemology has long been philosophers’ province, but only since a couple of decades ago have psychologists started to investigate individuals’ conceptions of knowledge and knowing as well as their influence on learning. Philosophically speaking, epistemology traditionally has been used to refer to the nature of knowledge and its origins, limits, and justification. According to Hofer, 2000, p. 227), “in the psychological realm, personal epistemology” or what has also been called epistemic cognition refers to what individuals think knowledge is and how they think that they and others know”. This typically includes how one develops, interprets, evaluates, and justifies knowledge (Greene, Azevedo, & Torney-Purta, 2008; Greene, Torney-Purta, & Azevedo, 2010; Hofer & Pintrich, 1997). Different models of personal epistemology have attempted to incorporate these aspects in differing ways. As a psychological construct, epistemology has been addressed in various subfields both education and psychology, “often with different research purposes and widely differing nomenclature (Hofer & Bendixen, 2012, p. 227). Developmental psychologists, for example, have been interested in the progression of epistemological understanding over time and its relation to age and education (Kuhn, Cheney, & Weinstock, 2000).

Educational psychologists have been interested in how beliefs about knowledge are associated with learning and achievement. As an example, a person who thinks knowledge is certain, finite, and handed down from authority might approach learning quite differently from a person who sees knowledge as evolving, tentative, and constructed by the learners. Researchers (e.g., Duell & Schommer-Alkkins, 2001; Hofer, 2001; Hofer, et al, 2012; Schommer & Dunnell, 1994) have been interested in how such epistemic conceptions change over time systematically, as well as how they might be situated in context and how they are related to both formal and informal learning and education.

Researchers have explored teachers’ beliefs (Aypay, 2011; Braten & Stromso, 2004; Brownlee, 2003; Chan, 2003; Chan & Elliott, 2004; Cheng et al., 2009; Rodriguez & Cano, 2007; Yilmaz & Sahin, 2011) as well as the students’ beliefs (Perry, 1999, Perry, 1970; Schommer et al., 1992). It has become obvious that the personal epistemology construct has several important implications for education. It is also known that educational psychologists can help clarify the general construct, its relation to education and learning, and how to measure it. Simultaneously, educational psychologists can benefit from keeping abreast of research developments in other fields (Hofer, 2001; Hofer & Pintrich, 1997). Moreover, as Baron (1993) believes, developing an understanding of how knowledge is developed within the disciplines is a fundamental part of the teaching of thinking skills. Research has also indicated that EBs are associated with reading comprehension (M. Schommer, 1990; Schommer et al., 1992), academic goal setting (Braten & Stromso, 2004) and attitudes towards school (Schommer & Walker, 1997). Yet, to the best knowledge of the researcher, the EFL teachers’ conceptions of teaching and learning and epistemological beliefs, as well as the relationship between their EBs and their conceptions of teaching and learning are not known. Therefore, this study addresses Iranian EFL teachers’ EBs and the relationship between their EBs and conceptions of teaching and learning. More specifically, the following research questions are addressed:

1. What are the epistemological beliefs of Iranian EFL teachers?
2. What are the Iranian EFL teachers’ conceptions of teaching and learning?
3. What kind of (if any) relationship is there between Iranian high school EFL teachers’ epistemological beliefs and their conceptions of teaching and learning?
2. Review of the related literature

Research on Epistemological Beliefs (EBs) began with the works of Perry (1868, Perry, 1970) who carried out two longitudinal studies on undergraduate Harvard students in the 1950s and 1960s, to document what he called “an intellectual Pilgrim’s Progress”. The Checklist of Educational Values (CLEV) was developed by Perry (1868, Perry, 1970) to facilitate the research on EBs. To investigate the participants’ EBs they were interviewed. Epistemological development was elaborated on by a model that emerged from Perry’s work consisting of nine positions and four categories, moving from a dualistic or absolutist view of knowledge to a more relativistic view culminating in commitment, namely dualism, multiplicity, relativism and commitment (Hofer & Pintrich, 1997). According to Perry (1968), although most students have different starting points they go through developmental stages in the same order.

The unidimensionality of EBs has further been questioned by M. Schommer (1990). According to M. Schommer (1990) learners are divided into two groups: sophisticated (more relativistic) and naive (more dualistic) learners. Sophisticated learners consider knowledge as a changing phenomenon, a large part of which is evolving, some of this knowledge remains to be discovered and a very small part of it is fixed. According to naive learners, knowledge is comprised of primarily absolute and unchanging data, some of this knowledge remains to be discovered and a very small part of it could be changed. Schommer (1993a) also proposes that EBs encompasses five dimensions: “Innate/Fixed ability”, “Omniscient authority”, “Certain knowledge”, “Simple knowledge”, and “Quick learning”.

The conceptions of teaching and learning (CTL) refer to the beliefs held by teachers about their preferred ways of teaching and learning. These include the meaning of teaching and learning and the roles played by teachers and students. There are two main opposite conceptions in teaching and learning, namely traditional conceptions (TCs) and Constructivist Conceptions (CCs). Constructive Conceptions is rooted in Piaget’s and Vygotsky’s theories. According to Weinstein (2001), constructivism is an orientation to teaching and learning in which meaning and knowledge are collaboratively constructed by both teachers and students, so the main responsibility of the teacher in the classroom, from constructivism perspective, is to create an environment which maximizes the interaction between students and teachers and mainly among students themselves. The teachers perform as facilitators in classrooms. New knowledge is constructed upon previous knowledge, so the students need to be actively engaged in the process of teaching (Brady, 2004).

Detailed analysis of the related studies shows that personal epistemology has been investigated in different domains. EBs have been explored in terms of considerations such as age, gender, fields of teaching, the effect on comprehension, and study strategies. This section aims at to mentioning some of these studies related to different domains among different participants including high school students (Ismail et al., 2011), college students (Hakan & Munire, 2012; Ismail et al., 2013; Hofer, 2004; Schommer, 1993a, 1993b; Tumkaya, 2012; Whitmire, 2004) and pre-service teachers (Aypay, 2011, Chan, ; Chan et al., 2007, Cheng, Chan, Tang, & Cheng, 2009, Sing & Khine, 2008, Yilmaz & Sahin, 2011).

In a longitudinal study, Schommer et al. (1997) investigated the development of EBs among high school students from all socioeconomic levels (as freshmen in 1992 and as seniors in 1995). They addressed four issues in their analyses: a) changes in EBs; b) the link between EBs and academic performance; c) gender differences; and d) the relationship between EBs and academic performance. They found out that high school students’ EBs changed over time.

Shabani Varaki (2003) conducted a study to explore the difference in EBs among 96 school principals at primary and high school levels and to measure the effects of those differences on their leadership styles. A strong relationship was found between the EBs held by school principals and their leadership styles. There was also a significant relationship between the participants’ EBs and their work levels. Similarly, the findings indicated that secondary school principals
implemented a relationship-oriented leadership style while the primary school principals applied task-oriented style.

Chan (2004) found four EBs (Innate/Fixed Ability, Learning Effort/Process, Authority/Expert Knowledge and Certainty Knowledge) and two conceptions of teaching and learning (Constructivist and Traditional conceptions) through a qualitative study. The study implied the possible influence of cultural contexts on the pre-service teachers’ EBs. No statistically significant difference was found among the participants in terms of age, gender, and elective groups. A significant relationship was also found between EBs held by pre-service teachers and their CTL.

Hakan and Munire (2004) conducted a study among 750 undergraduates studying in different departments to determine their EBs in terms of gender, domain and grade differences. Data were collected through the “EBs Scale”, developed by M. Schommer (1990) and Turkish bilingual equivalence. They found significant differences in undergraduates’ EBs in terms of gender and domain.

Hofer (2004) explored the dimensions of personal epistemology in differing classroom contexts (certainty of knowledge, simplicity of knowledge, source of knowledge and justification of knowledge). She conducted the study using a qualitative exploratory case study consisting of classroom observations and interviews of 25 first-year students enrolled in both science and social science classes. Hofer found that his study participants (25 undergraduate students) interpret their perceptions of instructional practices through the lens of their epistemological assumption, but that such epistemological perspectives are evolving and instructors may influence them in multiple ways.

In another study, Whitmire (2004) found a relationship between EBs and reflective judgment and information-seeking behavior among 20 fourth-year undergraduates at Yale University. She interviewed the students about their information-seeking behavior. They also completed a short-answer questionnaire, Measure of Epistemological Reflection. Undergraduates at higher stages of epistemological development showed the ability to handle conflicting information sources and to recognize authoritative information sources.

Fujiwara and Phillips (2006) aimed to investigate the structure of personal epistemology of first-year students at a university in Thailand and to examine possible differences among them based on different secondary educational backgrounds. Factor analysis identified three dimensions: fixed ability, stable knowledge, and simple knowledge, confirming a dimensional structure of the students’ epistemology. They found a significant difference among groups of students differing in educational backgrounds. They also found a significant difference among students in terms of different majors. According to the study, culture influences the development of perspectives toward knowledge and knowing through education.

Sing and Khine (2008) in response to the reforms due to the orientation toward constructivist teaching which required the change in beliefs aimed to investigate pre-service teacher students’ epistemological and pedagogical beliefs in Singapore based on the data obtained from 877 pre-service teachers. The survey results showed that pre-service teachers hold compatible epistemological and pedagogical beliefs that constitute the base of reform initiatives. The results of the study were contradictory to the teacher-centeredness dominant in Singapore reported by other researchers.

Askan (2009) sought to clarify the relationships between EBs and self-regulated learning. To this end, the national and international literature related to EBs and self-regulated learning was analyzed. The findings of the study showed that self-regulated learning provides the positive EBs about the individual’s ability, the value of learning, the factors affecting learning, guessing the result of activities, concentrating on instruction, etc. Low motivation and poor learning were also found to be caused by poor self-regulation skills.
Using both qualitative and quantitative methods, Cheng et al. (2009) investigated the student teachers’ EBs and their CTL in the final year of a Bachelor of Education program. They found that student teachers believe that learning effort was more important than innate ability and knowledge changes. The teacher students also tended to challenge the authority of knowledge. Although the participants having sophisticated or mixed EBs tended to believe in constructivist or mixed conceptions of teaching as predicted, inconsistent cases were found.

Rastegar et al. (2010) surveyed in an attempt to investigate the relationship between EBs and mathematics achievement, with the role of achievement goals, mathematics self-efficacy and cognitive engagement as mediators. Participants of the study consisted of 473 Iranian students from basic sciences fields chosen through multistage cluster sampling. The findings revealed that achievement goals, mathematics self-efficacy, and cognitive engagement mediated the relationship between EBs and math achievement.

Aypay (2011) conducted a qualitative study with a two-fold purpose among 341 student-teachers in Turkey. Adapting the Teaching-Learning Approaches Questionnaire and determining the relationship between EBs and CTL were dealt with. The results of the study revealed that student-teachers preferred constructivist approach over the traditional approach and their views differed in terms of gender and class level. Significant correlations were also found between EBs (Innate/Fixed Ability, Learning Effort, Learning Process—Casting Doubt on Authority/Expert Knowledge, and Certainty of Knowledge) and approaches to teaching and learning.

Investigating high school students’ EBs in terms of gender and school type among 301 high school students of public schools in Malaysia by using the EBs Scale developed by Schommer (1990), Ismail et al. (2011) found out that the learners have naive beliefs about quick Learning, certain Knowledge, omniscient authority, innate ability, and simple knowledge. No significant differences were found in students’ beliefs in terms of gender and school type.

In a quantitative study, Tanriverdi (2012) investigated the beliefs about knowledge and learning held by 632 Turkish pre-service teachers at the Faculty of Education the ways they approach their learning. The results of the study showed that students who believe that learning depends on innate ability were likely to be surface motivated and utilize a surface strategy in their studying while students who believe in learning depend on effort would be deep-motivated and adopt a deep study strategy.

In a study conducted by Tumkaya (2012), EBs were investigated among 488 Turkish university students in terms of their genders, classes, fields of study, academic success and learning styles. She found no difference in terms of the gender of the students. The EBs of students differed according to their field of study but they didn’t differ according to the common effect of the academic success and learning style. The results of the study revealed that the students from the field of social sciences in the sub-dimension of the belief concerning that “learning depends on effort”; the students from the field of health in the sub-dimension of the belief concerning that “learning depends on ability”; the students from the field of science-techniques were more developed/mature in the sub-dimension of the belief concerning that “There is one unchanging truth”. The results also showed that a great majority of university students have “Assimilating” and “Converging” learning styles.

Manavipour (2013) explored the EBs held by students of Islamic Azad University in Iran, in terms of gender, discipline and academic performance. The survey used M. Schommer’s (1990) scale to collect the data through multi-stage cluster sampling. Participants showed a significant difference in the dimensions of simple knowledge and certain knowledge but no difference was found in other dimensions. In terms of academic levels, all dimensions except simple knowledge and omniscient authority were found to have significant differences. Female students believed in certain knowledge more than male students but no significant difference was found between them in other dimensions.
In another study, Savoji et al. (2013) explored the relationship between EBs and self-regulatory (cognitive-metacognitive) learning strategies with high school student's academic achievement. Participants consisted of 268 female students selected through cluster sampling. They found out that dimensions of EBs and motivational strategies can predict academic achievement.

Schommer-Aikins and Duell (2013) in their attempt to understand how EBs influence mathematical problem-solving, administered a questionnaire among 701 USA college students who completed a domain-general and domain-specific (mathematical problem-solving) beliefs questionnaire. The participants also conducted two mathematical tasks, one that assessed cognitive depth and the other problem-solving. According to the results, students having a high mathematical background showed consistency across domain-general and domain-specific EBs, whereas, students having less mathematical background were significantly different between the two levels of belief specificity. The results of the study also revealed the indirect effects of general EBs and the direct effects of domain-specific EBs on mathematical performance.

Through a correlation research design, Barvarz et al. (2014) sought to investigate the relationship between the EBs and academic performance of students. Participants of the study (385 students from two universities) were randomly selected. A meaningful linear relationship was found between academic performance and knowledge speed aspect about the main question and a meaningful negative relation was found between the knowledge speed aspect and academic performance about the special question and there is not any relation in any other aspects.

Through a descriptive and ex-post-facto design, De-Juanas et al. (2014) conducted a study to analyze the university professors’ ratings and their EBs. 133 students studying Health Science at the Complutense University of Madrid (Spain) participated in the study. The results revealed that gender exerts no influence on the perception of students about teachers or EBs. They also found relationships between students’ beliefs about knowledge and its validation, as well as between each dimension.

A survey was conducted by Ketabi et al. (2014) to assess 92 Iranian pre-service EFL teachers’ EBs and their CTL. They found that pre-service EFL teachers tended to endorse innate/fixed ability and certainty knowledge. Similarly, most of them tended to endorse TCs. The results of the study also revealed significant positive relationships between TCs and dimensions of innate/fixed ability and certainty knowledge. Significant correlations were also found between CCs and pre-service teachers’ learning effort/process.

To investigate the impact of learners’ educational level and gender on the EBs held by EFL learners, Nayebi Limoodehi and Tahriri (2014) surveyed 101 students studying English literature and English translation in Iran. The Persian version of M. Schommer’s (1990) EBs Questionnaire (EBQ) was administered. The findings revealed no significant difference between male and female EFL learners in terms of EBs. The findings also showed that sophomore students held more naive beliefs about “certainty of knowledge” and “speed of learning” than freshman students.

3. Methodology

3.1. Participants

The participants of this study were selected from high school teachers of English as a Foreign Language (EFL) in Tehran. The sample of the study consisted of 120 teachers who were selected through cluster sampling. That is, 10 educational districts (among 22 districts) in Tehran were selected. Then from each district, five or more high schools were selected, and from each high school, at least three teachers of the English language were selected. The demographic information of the participants is presented in Table 1.
4. Instrumentation
The researchers used to questionnaires to collect the data: Epistemological Beliefs Questionnaire (EBQ) developed by Schommer (1990), and partially modified by Arredondo and Ruscinski (1996), and the Conceptions of teaching and learning questionnaire (CTLQ) developed by K. W. Chan (2001).

5. EB questionnaire
This questionnaire is of a 5-point Likert-type, ranging from “strongly disagree” to “strongly agree” consisting of 63 items. This questionnaire was developed by M. Schommer (1990) focusing on five EBs dimensions: Source of knowledge (knowledge is handed down by omniscient authority/knowledge is reasoned out through objective and subjective means), Certainty of knowledge (knowledge is absolute/knowledge is constantly evolving), Organization of knowledge (knowledge is compartmentalized/knowledge is highly integrated and interwoven), Control of learning (ability to learn is genetically predetermined/ability to learn is acquired through experience), Speed of learning (learning is quick or not-at-all/learning is a gradual process). This questionnaire was piloted and its reliability was measured through running Cronbach alpha coefficient. The reliability indices of the instrument and its components are shown in Table 2.

As it is shown in Table 2, the reliability (internal consistency) of the scale and its sub-scales exceeded 0.80, which seemed to be acceptable.

6. Teaching/learning conceptions questionnaire (TLCQ)
It consists of 30 5-point Likert items. It embodies two parts: the traditional (18 items) versus the constructivist (12 items) views. According to K. W. Chan and Elliott (2004), the traditional conception in teaching utilizes teacher-centered teaching strategies. This conception perceives the teacher as the source of knowledge and the student as the passive receiver of knowledge. This

| Variable       | BA (Bachelor of Arts) of TEFL | 80  |
|----------------|-------------------------------|-----|
| Gender         | Male                          | 50  |
|                | Female                        | 70  |
| Teaching experience | 5-10                      | 30  |
|                | 10-15                         | 50  |
|                | 15-20                         | 40  |
| Age            | 30-34                         | 20  |
|                | 34-38                         | 60  |
|                | 38-42                         | 40  |

| Variable                        | Reliability |
|---------------------------------|-------------|
| Source of knowledge             | 0.81        |
| Certainty of knowledge          | 0.82        |
| Organization of knowledge       | 0.90        |
| Control of learning             | 0.83        |
| Speed of learning               | 0.88        |
| Epistemological beliefs         | 0.87        |
questionnaire was also piloted and its internal consistency was calculated through running Cronbach. Results are presented in the following Table 3.

As shown in Table 3, the internal consistency of the scale and its sub-scales exceeded 0.86, which seem to be acceptable.

6.1. Data collection procedure

The study was undertaken in several steps. In the first step, the participants of the study were selected through cluster sampling. They were asked to fill in and return the questionnaires within a time interval of two weeks. Through a brief introduction at the beginning of the questionnaires, the respondents were familiarized with the nature of the questionnaires and the purpose behind such a survey. The completely filled in questionnaires were coded and entered into SPSS. Finally, in line with the nature of each research question, an appropriate data analysis technique was used. At first, the teachers’ responses to the items of each component of the questionnaire were computed and summed up. The data were analyzed through descriptive statistics (Mean, SD, and Standard Error of Measurement) as well as inferential statistics. For the first and the second research questions, descriptive statistics and One-sample-t-test were used. And, for research questions three, Pearson Correlation was used.

7. Results

The results for research questions 1, 2, and 3 are presented sequentially.

8. Research question 1

Research question 1 aimed at investigating EFL teachers’ epistemological beliefs. The means of the participants on each sub-scale was calculated and then to show whether the sample mean was significantly different the mean of the population, one-sample t-tests were run. Results are presented in the following Table 4.

As shown in 1, the mean score of the participants’ scores on epistemological beliefs is 168.44 with standard deviation of 20.51. The results also show that the mean score on SK is 47.85 and SD is 11.9. Additionally, the mean score of the participants’ scores on speed of learning is 45.43 and SD is 6.3. Furthermore, the mean score of the participants’ scores on AL is 40.07 and SD is 11.24.
Moreover, the results show the mean score of the participants on stability of learning is 35.07 and SD is 9.27. In order to see whether there is any significant difference between the mean scores of the sample and that of the population, five sample t-tests were run for each component of EBs and the total scale of EBs. The results are shown in the following Table 5.

As the results in the above Table show, there is a significant difference between the sample (teachers) and the population mean score on AL (t = 62.07, df = 119, p = 0.001 < 0.05). Therefore, it could be argued that teachers have positive beliefs about AL. The results also show the difference between the means on all components of the EBs was significant at p value = 0.001. Therefore, it could be strongly argued that the participants held positive beliefs about all components of epistemological beliefs.

9. Research question 2
The teachers’ responses to the items of each comment were computed and mean scores on the two components were analyzed.

As it can be seen, the mean scores of teachers on TCs, CCs, and CTL are 53, 44.51, and 97.55, respectively. The standard deviations of the participants’ scores on the three components are 4.5, 14.69, and 14.66, respectively which shows that the participants are more homogenous in terms of TCs but heterogeneous in terms of CCs. To see whether the means of the participants and population are significant or not, there different Sample t-tests were run. The results are shown below.

As the results in the above Table show, there is a significant difference between the sample (teachers) and the population mean scores on TCs (t = 161.94, df = 119, p = 0.001 < 0.05). Therefore, it could be argued that teachers have positive beliefs about TCs. The results also show the difference between the means on all components of CCs was significant (T = 42.41, df = 119, p = 0.001 < 0.05). Moreover, there is a significant difference between the sample (teachers) and the population mean score on CTL (t = 93.12, df = 119, p = 0.001 < 0.05). Therefore, it could be argued that teachers have positive beliefs about CTL.

9.1. Results of the third research question
The Pearson Product Correlation between the participants’ scores on the two scales was calculated. The results are shown in Table 6 and 7.

As it is shown in the above table, the correlation between the teachers’ EBs conceptions and of teaching and learning is significant (r = 0.588, p = 0.001 < 0.05). Therefore, the null hypothesis is safely rejected and it could be argued the higher the participants’ scores on EBs, the higher their scores on conceptions of teaching and learning.
10. Discussion

This study aimed at investigating Iranian EFL teachers' EBs and their conceptions of teaching and learning and the relationships between EBs and conceptions of teaching and learning. Regarding the first objective of the study, the findings of the study showed that Iranian EFL teachers have strong positive epistemological beliefs. The results of the present study also revealed that although the participants of the present study hold strong beliefs about epistemology, perceptions on the source of knowledge were the strongest and their beliefs in the stability of knowledge were the weakest. This finding is consistent with the results of Manavipour (2013) who explored the EBs held by students of Islamic Azad University in Iran, in terms of gender, discipline and academic performance. The survey used M. Schommer’s (1990) scale to collect the data through multi-stage cluster sampling. Participants showed a significant difference in the dimensions of epistemology. The results were also consistent with Ghamousi et al. (2014) who evaluated and compared the EBs held by 88 professors and students (B.As. and M.As) of Kurdistan University, Iran, in terms of the nature of knowledge and curriculum of their major (sciences of education). They found that the EBs of participants were at a favorable and developed level.

The second research question of the present study investigated the kinds of teaching conceptions (traditional vs. constructive conceptions) which the participants held about teaching and learning. The participants’ mean scores on the two dimensions of the scale were above the midpoint score. The results of the inferential statistics also verified that Iranian teachers of English have positive perceptions about CCs and TCs. The results of the present study are consistent with the findings of a couple of studies reviewed in chapter two (Ghamousi et al., 2014; Manavipour, 2013; Tumkaya, 2012). Therefore, it could be postulated that Iranian EFL teachers have high perceptions of constructivists teaching and learning. That is, they strongly believe that the teaching and learning process of English as a foreign language in the schools in which they teach is based on conceptions of constructivism.
It was also found that the EFL teachers often agreed with conceptions of constructivist teaching, while they sometimes agreed with traditional ones. We also found that the teachers were more homogeneous in believing conceptions of traditional teaching than constructivist ones. This finding is not consistent with the 2009 OECD report that teachers in eastern European countries would tend towards the constructivist view of teaching more than traditional or directive views. Researchers assert that while some teachers either fail to take up reforms or actively resist educational innovations (Fullan, 1993), many others make changes to their teaching by adopting easily assimilated practices into their methods of teaching. In the same line with the findings of the present study, Eren (2009) found that teachers valued constructivist teaching/learning, making learning explicit, and promoting learning autonomy more than they practiced those things, whereas they practiced traditional teaching and performance orientation more than they valued it. Klein (1996), in his study of pre-service teachers, argues that teachers’ beliefs can be eclectic and contradictory and that teachers may simultaneously hold both traditional and constructivist views. In his study of the learning and knowledge beliefs of 279 pre-service students from the faculty of education, the majority endorsed a view of learning that included both constructivist and transmission-oriented themes. While the participants in the study may have agreed with the study’s constructivist items, they did not simultaneously reject a directive view of teaching.

The third research question aimed at exploring the relationship between EFL teachers’ epistemological beliefs and perceptions of teaching and learning. Results verified that the correlation between the teachers’ EBs conceptions and of teaching and learning is significant ($r = 0.588$, $p = 0.001 < 0.05$). Therefore, the null hypothesis was safely rejected and it could be argued the higher the participants’ scores on EBs, the higher their scores on conceptions of teaching and learning. This finding was in line with K. W. Chan (2004) who found a significant relationship between EBs held by pre-service teachers and their conceptions of teaching and learning. In line with this finding, it, therefore, could be postulated that when the teachers’ knowledge of epistemology is high they strongly believe in teaching and learning conceptions. Due to the nature of correlational studies, it is not which of these variables cause the other. As a result, the other researchers are called to replicate the study to determine the cause-effect relationship between these variables.

11. Conclusions

In light of the findings of the study, the following conclusions are made:

The results of the current study offer some practical implications for different stakeholders. Firstly, the results can help teacher educators design and develop in-service and pre-service teacher education programs in a better light. That is, teacher educators can unravel the reason underlying teachers’ undertaken actions. For example, whenever teachers overemphasize repetition and lecture-based classroom management, the teacher educators are assisted to know that this could be due to the differences in their EBs and conceptions of learning.

Secondly, the results can help language teachers develop an insight into the EBs and conceptions of learning which they hold. This raise in awareness can assist then to know about the reasons behind their decisions and actions in their classes, so they are placed in a better position to make proper decisions or to make required changes to their beliefs and actions if they are not satisfied with the current ones.

Thirdly, the results can further help textbook developers. The authors who develop textbooks and their teacher’s books can benefit from the results of this study. They can draw upon the results to become aware of their EBs and conceptions of learning. This self-awareness can function as a point of departure of the teachers to make proper modifications to their EBs and conceptions.
Last but not least, second language researchers can take this work as a starting point and delve into the factors which shape EBs and conceptions of learning. Also, they can explore the role of EBs in language teachers’ practices in their classrooms.

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**Data Availability**

The data and all relevant papers used to support the findings of this study are available from the corresponding author upon request.

**Citation information**

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