

*Factors influencing language teacher cognition:
An ecological systems study*

Alireza Mohammadzadeh Mohammadabadi

University of Isfahan, Iran

<https://orcid.org/0000-0002-6189-4568>

ali.mohammadzadeh61@gmail.com

Saeed Ketabi

University of Isfahan, Iran

<https://orcid.org/0000-0002-7784-2754>

ketabi@fgn.ui.ac.ir

Dariush Nejadansari

University of Isfahan, Iran

<https://orcid.org/0000-0002-9145-6008>

nejadansari@gmail.com

Abstract

Learning about language teacher cognition (LTC) is useful for understanding how language teachers act in the classroom. Employing an ecological framework, this study aimed to explore the factors influencing language teachers' LTCs at different levels. To this end, qualitative data using semi-structured interviews and observation were collected from 62 (30 males and 32 females) Iranian EFL teachers. The results indicated that, at microsystem level, factors such as teaching equipment and facilities, teachers' mood and feelings, their job satisfaction, and language proficiency influenced LTC. At mesosystem level, LTC was influenced by teachers' prior learning experience, the collaboration and collegiality among teachers working in the language institute, teachers' self-efficacy, and critical incidents that happened when teaching or learning. Additionally, the results indicated that exosystem level factors including teacher appraisal criteria, the teaching program and curriculum, and

teacher immunity affected LTC. Moreover, LTC was subject to the influence of the government's attitudes about ELT and religious beliefs about self and interaction, and friendliness with students at macrosystem level. More importantly, it was found that the factors influencing LTC were interrelated and interconnected and in several cases, LTC was a product of joint effect of several factors at various ecosystem levels. Finally, findings in this study suggest that language teaching programs provide recent educational technology in the classroom, foster collaboration and collegiality among teachers, and clarify teacher appraisal criteria for teachers in order to help create positive language teaching beliefs.

Keywords: language teacher cognition; ecological perspective; microsystem; exosystem; mesosystem; macrosystem

1. Introduction

Teachers play an integral role in language teaching and learning. Researching language teachers' cognitions (LTC) and the way they form and are being formed by the constant changes to language teaching profession has gained importance for teacher education (Borg, 2015; Freeman, 2016). In so doing, teachers' mental propositions including beliefs, attitudes, and world views have been studied under language teacher cognition (Borg, 2015). Studying LTC is important in that it identifies a diverse range of knowledge and beliefs that language teachers have about various aspects of language teaching (Burns, Freeman, & Edwards, 2015) and elaborates on the ways in which teachers' cognitions relate to their classroom practices (Borg, 2015; Kubanyiova & Feryok, 2015).

While several studies have been done on the conceptualization of teacher cognitions and how curriculum or learner factors influence LTC (Borg, 2015; Feryok & Oranje, 2015; Kubanyiova & Feryok, 2015; Moodie, 2015), little research has been conducted on the potential effect that factors in the environment might have on LTC in the Iranian context. This study argues that environment includes factors that have the potential to influence the formation of teachers' cognition about language teaching. This study, therefore, adopted an ecological systems framework to scrutinize various factors at micro, meso, exo, and macro level which exerted an impact on LTC of Iranian English as a foreign language teachers. The ecological perspective is used in this study since it foregrounds "individuals' processes as inextricably interwoven with their experiences in the physical and social world" (Leather & van Dam, 2003, p. 13) and considers the totality of the relationships and interactions that a person "entertains with all aspects in the environment" (Kramsch, 2002, p. 8). As such, it enables the researcher to consider all factors that might influence the organism and account for all that could go unnoticed (Kramsch, 2008).

2. Literature review

2.1. Language teacher cognition

Language teacher cognition (LTC) relates to the area recognized as teacher thinking (Crooks, 2015; Woods, 1996), defined as hidden dynamics regarding teachers' practices (Kubanyiova, 2015) and "the unobservable cognitive dimension belonging to teaching and what teachers know, believe and think" (Borg, 2003, p. 81). Cognitions are believed to be complex, related to many inter-related topics (Feryok, 2010), and affect teachers' classroom practices. Over the past three decades, several researchers have tried to examine the factors that affect LTCs (see Borg, 2003, 2015, 2018). Borg (2003), for example, mentioned that factors such as schooling, professional coursework, contextual factors and classroom practice could influence LTCs. Additionally, previous research in the field has indicated that variables such as prior language learning experience (Johnson, 1996; Moodie, 2016; Moodie & Feryok, 2015), practicum (Johnson, 1996), institutional policy (Farrell & Lim, 2005; Ng & Farrell, 2003), language teaching policy (Farrell & Kun, 2008), digital technology (Cummings, 2008), facilities (Borg, 2015; Woods, 1996) exert an impact on LTCs.

One key variable that is believed to significantly influence LTC is the context and contextual factors (Feryok, 2010; van Lier, 2004). Feryok (2010) believes that context influences teachers' cognitions and the ways in which they are expressed in practice. However, analysing context role in LTC research is mainly limited to the variables inside the classroom. One might argue there might be some environmental and contextual factors outside the classroom context that exert an impact on LTC. This study assumes that LTC can be subject to different factors beyond the classroom level and teachers' cognitions might be a product of the interaction between several factors inside and outside the classroom. Using the Iranian context as an example, the authors argue that there might be some factors outside the classroom context that might influence teachers' behaviour in the classroom and their beliefs about language teaching. Taking an ecological perspective, this study, therefore, aimed to address this problem and examine the potential factors influencing LTCs at different environmental levels.

2.2. English education and language teacher cognition in Iran

Prior to Islamic revolution in 1979, English experienced rapid expansion and was used for both integrative and instrumental functions. After the Islamic revolution, however, instrumental purposes were promoted and integrative functions gradually disappeared (Zarrinabadi & Mahmoudi-Gahrouei, 2018). In present-

day Iran, English has regained its popularity within the realms of trade, tourism, media and importantly education (Sadeghi & Richards, 2015; Sharifian, 2010). Nowadays, English is the most practical medium in education subsequent to Persian (Sadeghi & Richards, 2015; Zarrinabadi & Mahmoudi-Gahrouei, 2018).

In Iran, teaching English officially starts from secondary schools and continues until tertiary education, although private institutes also teach English to primary school children (Zarrinabadi & Mahmoudi-Gahrouei, 2018). Emphasizing listening and speaking skills in English, the objective behind English language education is to develop communicative competence and problem-solving skills (Zarrinabadi & Mahmoudi-Gahrouei, 2018). The adopted methodology is localized communicative language teaching (in terms of images, names and social situations) wherein language is used for communication and transferring cultural and ideological values.

In recent years, LTC in Iran has been the centre of diverse studies. Ghafar Samar and Moradkhani (2014), in a qualitative study, examined teachers' cognitive processes during their classroom code-switching and reported that factors such as knowledge about context and social relations, knowledge about class, time, and learning management, knowledge about research and professional development influenced teachers' cognitive processes. Yunus, Salehi and Amini (2016) also reported that L2 teachers' experiences had a complex relationship with teachers' cognition regarding L2 learners. Rahmani Doqaruni (2017) further compared experienced and inexperienced teachers' cognition and reported that experienced teachers used fewer communication strategies as compared to inexperienced teachers. Moreover, Karimi, and Norouzi (in press) found that (re)structuring cognitions was higher in early years in teaching and decreased as teachers gain more experience. These studies, however, examine the links between a limited number of variables and teachers' LTCs and do not provide a complete picture regarding factors that might influence Iranian EFL teachers' cognitions as well as the ways in which these factors might interact in doing so.

2.3. Ecological perspective for studying LTC

Pivotal to ecological theory is the dynamic interaction between the human being (teachers) and the environment (complex systems). Bronfenbrenner (1993) argued that such a theory provides a rich holistic account for studying issues related to language learning, being interconnected, interdependent, and interactional. When applied to education, this theory comprises diverse components such as classroom, home, neighborhood, school, parent workplace, and the government defining public policy, as well as the relationships at all stages among such contexts and the cultural and historical structure in which they exist.

The environment covers a system of nested, interdependent structures stretching from proximal (face to face venue) to the most distant or distal (wider social setting namely classes and culture) (Bronfenbrenner, 1993). The framework includes four layers including microsystem, mesosystem, exosystem, and macrosystem (see Figure 1). The microsystem is “a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given face-to-face setting” (Bronfenbrenner, 1993, p. 15). It is the direct influences within teachers’ immediate surroundings. The mesosystem encompasses processes and interconnections occurring between two or more settings containing the developing person (relationships between microsystems). The exosystem encircles connections between two or more social settings wherein the developing person has an indirect role in the immediate surrounding. Finally, the macrosystem, which is an umbrella term, includes cultural and subcultural context, going beyond the immediate classroom context to identify belief systems, lifestyles, or social structures.

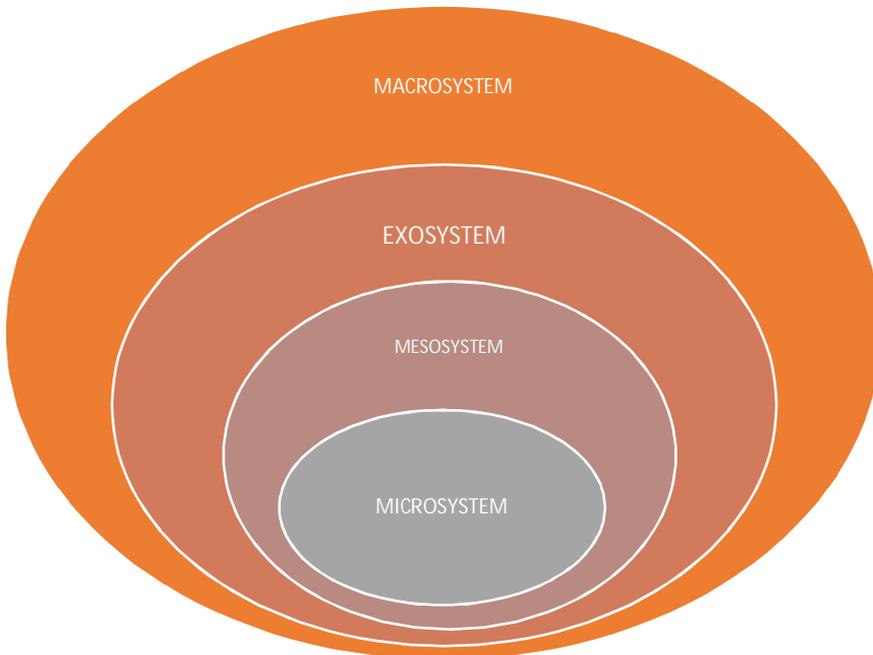


Figure1 Ecological System Levels (adapted from Bronfenbrenner, 1993)

With respect to language education and applied linguistics, Kramsch and Steffensen (2007) argue that this perspective presents a rich framework for exploring linguistic phenomena which are interdependent, interconnected and interactional. Moreover, van Lier (2004) state that the ecological perspective is a coherent and theoretically and practically well-motivated approach that can be

used to conceptualize, research, and practice language learning. Hornberger (2003) the ecological perspective postulates that cognition and learning are explained not only in terms of processes inside a learner's head, but also with regards to their interaction with the environment. The perspective has recently been used to study diverse topics in applied linguistics such as language maintenance and language policy (Muhlhausler, 1996; Ricento, 2000) and learner perceptions (Bernet, 2008).

Despite copious research on LTC (Borg, 2015; Burns, Freeman, & Edwards, 2015; Kubanyiova, 2015; Woods, 1996), there are no published accounts, as far as authors know, on different environmental factors in the context of Iran that have the potential to influence teachers' cognitions. Also, while several recommendations and interventions based on LTC literature have been proposed (Farrell, 2015), their uptake is reported to be limited (Tedick, 2009; Wright, 2010). As discussed above, one key issue in the previous studies on LTC has highlighted the way environment has been operationalized and the variables that have been analyzed as the factors in the teachers' environment. The authors argue that taking an ecological perspective toward studying LTC can provide us with a better lens for investigating LTC as it allows us to uncover various elements at different ecosystem levels (i.e., exo, meso, micro, and macro) and provide a more detailed explanation for factors influencing LTC. Moreover, we considered that there might be some other factors that influence LTC and restrict the extent to which teachers adapt these interventions and recommendations. Furthermore, while several studies have been conducted on various factors influencing LTC, the interrelations between these factors has remained rather understudied. The ecological perspective can also be used to explore possible clashes or tensions between the factors that affect LTC. All in all, theorizing in past research underscores individual, contextual, and institutional effects on LTC which convincingly justifies using an ecological perspective. As such, we employed an ecological perspective to explore the factors that could influence LTC at different ecosystems. To do so, we aimed to answer the following question: What factors influence Iranian EFL teachers' cognition development at different ecosystem levels?

3. Method

3.1. Participants

The participants in this study were 62 (30 males and 32 females) Iranian EFL teachers in Isfahan, Iran. The first author recruited the teachers while ensuring that informed consent was given. The teachers were from 25 to 32 years old ($M = 27.5$) and their native language was Persian. They were all employed in language institutes and had

similar socioeconomic status but different educational levels: BA (35, 56.5%), MA (15, 24.2%), and PhD (12, 19.3%). Their experience ranged from 1 to 10 years ($M = 1.5$).

The teachers participating in this study were similar to other language teachers around the world in several ways. For example, they all had globally-accepted teaching courses such as CELTA and TESOL (72% CELTA and 28% TESOL). Moreover, Iranian language institutes employ communicative approaches toward language teaching and internationally recognized textbooks (e.g., *Interchange*, *Top Notch*, *Headway*, *Four Corners*, and *American English File*) are used. Additionally, some institutes hold in-service courses taught by internationally recognized figures in order to familiarize their teachers with the latest language teaching developments.

3.2. Instrumentation

This study employed a qualitative methodology, since it allows for detailed and in-depth analysis regarding the factors that might influence teachers' LTC. As such, the data were collected using observation and semi-structured interviews.

The first author observed each teacher's class three times, using Nunan's (2001) observation protocol. This is a protocol for recording teachers' behavior, their interaction with students, the physical shape of the class, facilities in the classes, and so on. During observation, the observer also took copious field notes. All classes observed were general English classes. The classes included teaching four language skills with a focus on developing listening and speaking skills. The program also included teaching grammar and vocabulary for everyday communication.

Also, semi-structured interviews were used to gather more information on teachers' cognition. An interview protocol was developed based on the research question and previous studies. The teachers were asked about their feelings toward teaching, their opinions related to language teaching in Iran, the factors that influenced their feelings and attitudes about teaching in Iran, and the extent to which they liked their job. Moreover, the researchers formulated probing questions and clarification requests to get a clear meaning and perspective about participants. For example, when teachers referred to facilities, they were asked to elaborate on the type of facilities needed and on how such facilities could influence their beliefs about teaching English in Iran. The interviews were conducted in their workplace after scheduled class times. Based on the participants' requests, the interviews were performed in Persian, their mother tongue. Each teacher was interviewed once and each interview session lasted from 20 to 45 minutes. This resulted in 35 hours of audio data.

3.3. Qualitative data analysis

In order to analyze the data, Corbin and Strauss's (1996, 2008) grounded theory was applied. In so doing, coding and category development was conducted in three main stages. First, the transcribed interviews were read and labels were assigned to data (open coding). For example, labels such as "school," "government," "students," and "salary" were applied to the margins of the paper. In the second stage (axial coding), similarly-labeled data were grouped into a same file. In this phase, the researchers read and re-read the codes to construct higher-level concepts and categories. For instance, codes such as "textbooks" and "teaching materials" were combined into "teaching materials." In the third stage, selective coding, the researchers selected the categories developed to answer the research question in the study.

In order to ensure both dependability and credibility in the coding stages, several evaluative criteria (saturation, inter-coder reliability, member checking, and external audit) were taken into consideration. The data collection and analysis were continued until the point of saturation when no further data gathering and analysis seemed to add to the understanding of the phenomenon (Creswell, 1998; Dörnyei, 2007). Furthermore, in order to ensure that the coding process had been properly done and that the codes and categories reflect participants' views, the second author analyzed the data and performed the coding. The second author read the transcripts and performed the three stages of open, axial, and selective coding again. Cohen's Kappa was calculated to examine the inter-coder reliability between the two coders. The Cohen's Kappa (0.91) showed that the coding was rather perfect. Also subsequent to both coding and discussion, the first researcher discussed the findings with the participants in some informal member checking sessions (Creswell, 1998; Dörnyei, 2007). This was performed so as to minimize the researcher's bias and ensure that participants' views have been reflected. Additionally, an external audit (Creswell, 1998) was conducted. An expert familiar with qualitative research was requested to read the report and commented on the soundness of writing report and gave comments. This resulted in some changes in presenting details and descriptions.

4. Results and discussion

In this section, findings are reported according to Bronfenbrenner's (1993) ecological systems theory. Based on the qualitative data, factors influencing Iranian English teachers' cognitions were classified in four interrelated layers including micro, meso, exo, and macro systems.

4.1. Microsystemic level

4.1.1. Facilities

The data analysis indicated that multiple equipment integrated into immediate classroom context exerted significant influence on the participants' LTC. Factors such as visual appearance and instructional technology had an impact on teachers' LTCs. The following comments are representations about beliefs in this regard:

Honestly, the moment I step in, the class, size and space result in a positive attitude. Dim and shabby classes make me feel demotivated and already lose my interest in overall picture about teaching. (Teacher 3, 14/07/2017)

Throughout my teaching career, I have realized that physical features in classroom can elevate my mood, personal impression and hence my attitude towards students. You can't imagine, but in one class, they have put some flowers. This made me feel teaching is a lovely job. (Teacher 9, 18/07/2017)

Also, another teacher noted that bigger classes influenced his thinking and creativity:

Personally, bigger classes with half circled chair arrangements can create a positive image on my perception about class and teaching and boost creativity. (Teacher 14, 22/07/2017)

Further analysis revealed that computers, films and videos, and audio books significantly affected the participants' LTCs. The following excerpts reveal some teachers' LTCs:

Technology in classes gives me a feeling that teaching English is viewed professionally with global standards. I think technology results in an active learning-teaching mechanism within a multimedia environment. (Teacher 18, 29/07/2017)

I remember classes in our time were without even the most basic tools. These days, technology helps not only foster our teaching but also plan to create learner autonomy and finally trigger collaborative learning. (Teacher 22, 3/08/2017)

Facilities led to positive LTC among the participants of the study, and it can be inferred that they enhance quality teaching. The results are in line with previous studies on LTC (Berg, Benz, Lasley, & Raisch, 1998; Borg, 2003) that equipment positively influences teachers' attitudes.

4.1.2. Emotionality

The data indicated that learners' positive and negative moods also affect participants' LTCs. Analysing data showed that students' emotionality influenced teachers' attitudes toward teaching. This can be seen in the following examples:

Students' emotions and feelings play an important role to my creativity and teaching practice. I remember in a class, some students had work shifts, so they came to the class exhausted and even sleepy. Unbelievably, I felt that teaching is discouraging and even tiresome activity. After a few sessions, this boredom impeded the pleasurable and fruitful process of teaching thus leading to indifference. (Teacher 26, 05/08/2017)

I think learners' emotionality can make me think differently regarding teaching. I feel bad when I see learners come to the class with reluctance and lack of interest. I think this brings dissonance in my thoughts and affects my teaching and attitudes toward the job. (Teacher 30, 08/08/ 2017)

As demonstrated, participants' varied emotions created a positive or negative attitude toward teaching and, consequently, since teaching and learning are emotional processes, adapting emotions enables teachers to monitor their reactions and convert negative thoughts into positive emotions.

4.1.3. Teacher job satisfaction

Data from the interviews showed that satisfaction influenced participant teachers' LTC. As indicated in the following excerpts, the degree to which teachers were satisfied with their profession had an impact on beliefs for teaching:

I am not satisfied with my income. Although we work hard, we receive inadequate salary and benefits. As such, I think teaching is not the job that can support me and my family. (Teacher 35, 14/08/2017)

I teach in a language school where we have no insurance, time offs, and even job security. Upon repeated absence for medical reasons or a family problem, they easily fire you. This has left me no choice to accept their terms while I am totally dissatisfied. This condition breeds negative perspectives on teaching. (Teacher 37, 17/08/2017)

We have a social status which is a positive feeling. In private institutes, despite some lacks, the managers are attentive and appreciate our work. On the whole, this perception creates a positive impact on my mentality toward teaching. (Teacher 39, 20/08/2017)

According to the teachers' comments, job satisfaction influenced Iranian EFL teachers' LTCs. The data revealed that satisfaction could either avert positive attitudes or raise proper insight on teachers' evaluation of the profession (Borg, 2015; Soodmand Afshar & Doosti, 2016).

4.1.4. Linguistic proficiency

The teachers' linguistic proficiency level was also found to influence the LTCs of teachers. As the teachers noted:

I think I can speak English fluently and accurately; this has given me confidence to bring the best in grammar, vocabulary, small discussion groups and so on. (Teacher 42, 24/08/2017)

My English proficiency is not that developed. I have some pronunciation and stress problems insofar as students also criticize and correct some errors which honestly embarrass me and bring fear. This rejection by students leads to annoying beliefs about teaching. (Teacher 30, 21/09/ 2017)

As reported, teachers' linguistic knowledge seems to affect LTCs positively and negatively. If the teacher perceived oneself as competent and fluent in English, this would result in creating positive cognitions. However, if the teacher doubted his/her language ability, negative attitudes toward teaching might emerge (Borg, 2003, 2015).

4.2. Mesosystemic level

4.2.1. Prior experience

The data clearly indicated that teachers had an amalgam of experiences in their immediate language learning. Prior schooling either strengthened or weakened Iranian EFL teachers' LTCs. As the participants commented:

Back in high school, nobody cared much about our English which caused frustration. This matter gave me the incentive to choose English for helping others suffering from the same ambience. I think I should teach and help students find the best learning strategies. (Teacher 45, 27/08/2017)

My high school teachers profoundly affected my teaching conception and practice. Unlike past teachers, tough and dry and somewhat made me demotivated, I try to create a welcoming atmosphere, motivate the low-achievers, remove their weaknesses and create opportunities to break the ice for even a small talk. (Teacher 47, 30/08/2017)

Our school hired proficient teachers with native-like accent. They created a positive image in my mind. Now, even after twenty years, I am in love with English classes, my students, and thus do my best for students. (Teacher 49, 01/09/2017)

I have to admit that university has built up a diverse picture than high school. Teacher educators in the university presented a vivid picture and gave us a positive mentality about teaching. I just realized how meaningful teaching is. This phenomenon revolutionized my self-concept to teaching. (Teacher 51, 03/09/2017)

In terms of the findings, prior schooling thwarted or promoted Iranian EFL teachers' LTCs within their careers and could create a different effect (Moodie, 2015, 2016) or a booster (Moodie & Feryok, 2015).

4.2.2. Collaboration and collegiality

The data indicated that collaboration among teachers in instructional settings played a role of a catalyst for classroom innovations and instructional creativity. Interestingly, all teachers insisted that collaborative atmosphere maximized student achievement. Some of the comments are presented below:

Fortunately, collaboration is the basic principle. My co-workers have intimate relationship and discuss the classroom incidents during the break times. Teachers are experienced with invaluable lessons about teaching and classroom management for me. I should say that capitalizing on colleagues' skills has fostered positive emotions and created trust among us, thus better teaching career, higher motivation and reinforced teaching techniques. (Teacher 53, 10/09/2017)

At work, teachers alongside the manager have regular sessions. We share reflective conversations over teaching methodologies, student reticence, the existing syllabus, curriculums and assessment strategies. Two participants were instructional coaches (with overseas experience) who opened new teaching gates to us and encouraged us eclectic teaching experience. This has led to higher working commitment and higher face-saving behavior before students. (Teacher 55, 19/09/2017)

Between co-workers and I is a sense of intimacy. I am delighted to teach because we are like a family and this has doubled my motivation to teach. Sometimes while working independently, we share experiences to learn more about classroom life. These communicative ties create a positive cognition in teaching. (Teacher 56, 21/09/2017)

Our ambience at work is so congenial that I ask experienced teachers my questions. On top of that, we sometimes carry out joint work like designing questions, etc. which creates an inviting vision and makes teach better than the opposite condition. (Teacher 21, 4/09/2017)

As indicated in these excerpts, friendly relationship and rapport with other teachers indirectly helped creating positive attitudes toward language teaching (Yaghobinejad, Zarrinabadi, & Nejadansari, 2017). As Richards and Farrell (2005) noted, collegiality can enhance professionalism among language teachers. In this study, collegiality seemed to positively affect LTCs by creating favorable and positive attitudes.

4.2.3. Self-efficacy

The data, likewise, indicated that efficacy (i.e., potential and abilities toward achieving goals and overcoming challenges), could alter teachers' attitudes for teaching. The following are some representative examples:

I know my potentials and never doubt my capacity. I know myself and try to actualize the same feeling among students. I help them think when there is a will, there is a way. This mentality has a huge impact on my teaching attitudes and practices. (Teacher 5, 6/08/2017)

I think a teacher should set one's goals, face the obstacles and address the students' needs. Pursuing this path has given me confidence to teach better and created a positive mindset in teaching. I know that my persistence broadens my teaching self-perceptions. (Teacher 27, 6/08/2017)

These findings imply that perceiving oneself as efficacious can create attitudes reinforcing feelings about one's ability to teach. Having positive cognitions about one's teaching could create positive teaching beliefs.

4.2.4. Critical incidents

Data analysis demonstrated that critical incidents or vividly remembered events influenced EFL teachers' LTCs. The following excerpts show the positive impact of critical incidents on teachers' LTCs.

As a novice teacher, my earliest experience occurred in classroom. Having introduced myself, I strictly talked about the dos and don'ts in classroom and reminded students of their discipline and perseverance alongside my power as an authority. My reflection was this is how I can make things work. This attitude was wrong, though. It turned into an upheaval and some even decided to change classes. I wanted to cool off the mess, but a bit late. Upon this critical incident, my reflections made me think I have no right to impose myself and cause frustration and demotivation. (Teacher 57, 30/09/2017)

I was teaching in a private institute in which learners were from 25 to 45. On the 6th week, some conflicts occurred since learners kept comparing me to their ex-teacher. I lost my temper and a fierce confrontation occurred in a way that other co-workers and the manager realized it. This critical occasion shattered my thoughts and led to some self-critical reflections: I must pay attention to the age, level of education, social status and the individual differences among participants and serve flexibility. (Teacher 41, 29/08/2017)

As in the data, critical incidents deepened teachers' instructional mentality and prompted continual reconsiderations. Critical reflections fostered self-realization and awareness inside and outside classroom, and moved the instructor beyond practice and relations practice more to the broader socio-political in addition to affective/moral issues that impact practice. These periods of strain triggered new understandings and cultivated new teaching beliefs for self-knowledge among teachers and teacher education courses (Farrell, 2016).

4.3. Exosystem level

4.3.1. Teacher appraisal criteria

The results showed that the criteria for evaluating teachers' performance influenced their LTCs. The teachers said that they knew the criteria and did their best to meet the criteria requirements. As the data showed, the criteria led to forming some cognitions. The teachers provided the following comments.

I tried to meet the prescriptions. Some criteria were really instructive. Honestly, I was not careful about them before they were prescribed as yardsticks for assessing my performance. But after that, I used them in my teaching and found that they were effective. I appreciate using different ways of feedback presentations. Let me tell you about the person who observed my class and assessed my teaching ability. He was the supervisor of the institute. He wrote that I should pay more attention to less confident and reticent students. He said only more competent students talked. This led to a positive change and now I believe that teachers should assign turns so that silent students take part in classroom discussions. (Teacher 28, 06/08/2017)

As seen, supervision affected teachers' beliefs and their teaching and reactions to students. When the teachers were assessed by others (formally or informally), they paid more attention to some criteria for teaching as they were substantially scored (Borg, 2015).

4.3.2. Teacher immunity

The data indicated that language teacher immunity, an armoring system against undesirable influences, resulted in adaptive and maladaptive effects on Iranian English teachers' LTC. The following excerpts represent this phenomenological concept:

You can't imagine, but I sometimes feel being a teacher is wasting life. Why should we dedicate ourselves to those who underestimate us and come here for higher grades than learning? I just give them what they want. (Teacher 24, 03/08/2017).

Frankly, I feel fossilized teaching the same stuff time and again. We should be receptive to novelty and changes in the classroom. Unless these are met, I may think of quitting my job. (Teacher 2, 13/07/2017)

Doing all this makes me aversive and reluctant to teaching. Why are our instructional duties so heavy; this is unfair causing frustration to teaching. (Teacher 38, 18/08/2017)

Although part of my learning was not satisfactory, I bring out the best for my students considering their needs, learning style, etc. Our task is to help students survive and thrive regardless of any influences. We should activate learners' knowledge, wisdom and curiosity. (Teacher 43, 25/08/2017)

As can be observed, teacher immunity fostered adaptive attitudes, namely openness to changes, high resilience, emotional adjustment and higher retention (Hiver, 2017). Nonetheless, maladaptive perceptions caused aversion, cynicism and a high attrition creating disequilibrium in teachers' thought.

4.3.3. Curriculum

Data analysis suggested that curriculum also caused a change in teachers' LTC. This can be seen in the following excerpts.

I think I am teaching an overcrowded curriculum. Too much grammar and reading burns students and me . . . How can I teach this bulk with lack of time? My viewpoint is this heavy burden on me and my students result in stress and less optimal teaching. I insist this causes adverse effect on my teaching reflection. (Teacher 11, 12/07/2017)

Honestly, I sacrifice everything to stick to the curriculum. I feel I am a robot and have lost my creativity . . . That said, there are no communicative activities. Frankly students practice silence since they can't adapt themselves to that curriculum, so back to square one. This induces a negative belief in my teaching career. (Teacher 4, 15/07/2017)

Previously, students had no practice in listening and speaking, so they clearly lost communication and authentic practice of English. Recently, despite reforms and emphasis on four skills (CLT practice), I have to claim that it is even worse since I haven't learned CLT in practice which has gradually given me a negative feeling in teaching. (Teacher 16, 23/07/2017)

One participant compared his experience at state school with private institutions and noted that flexibility in curriculum created positive beliefs toward teaching in the latter:

Unlike state schools where we experience lack of control on curriculum, I like curriculum in the private schools. Attending three sessions a week, there is time for students to practice English in general and listening and speaking in particular. Syllabi are easy to put into practice. Comparatively, they are fluent and can have real conversations with others and even the teacher. Frankly this has planted a positive energy in my teaching style. (Teacher 7, 15/07/2017)

Furthermore, some other participants referred to the same idea. This can be seen in the following excerpt:

Teaching in both contexts, I believe curriculum in private schools is handier than state schools. Being proficient and confident, I can create a positive image about teaching and trigger students for cooperative learning through authentic tasks. I can teach grammar in context and help students practice English out of context. Undoubtedly, this eclectic syllabus creates a positive reflection on dynamism. (Teacher 2, 11/07/2017)

Analyzing qualitative data showed that curriculum exerted an exosystemic effect on teachers' perceptions (Borg, 2015; Cummins & Early, 2015; Feryok, 2010). According to the data, overloaded curriculum resulted in burnout and even aversion toward teaching optimally; however, flexible and accessible curriculum may contribute to developing positive LTCs.

4.4. Macrosystem level

4.4.1. Governmental attitudes about ELT

The results of qualitative measures indicated that teacher ideas about policy and higher-level political issues influenced their LTCs. The analysis showed that teachers predominantly thought the government does not want English to prevail in the country as it seemed to contradict national and ideological attitudes. This can be seen in the following comment:

I think our government does not want English to be extensively learned. That is why only 2 hours weekly are allocated to learning English. I think this is owing to ideological clashes between our government and the U.S. (Teacher 31, 09/08/2017)

Another teacher noted that English is an instrument for spreading Western values, some of which are in sharp contrast with ours. He claimed that this perception influenced his beliefs regarding the value of his work and its importance for the society. Overall, there were numerous instances of beliefs regarding higher level policies on teacher cognitions about their job and its values. The data confirms the findings of Borg (2015) who noted that higher-level policies and societal factors can exert an impact on teachers' LTCs. Teachers in this study related their thoughts to political and governmental policies toward L2 development.

4.4.2. Religion

The data showed that religious beliefs affected teachers' beliefs about manners in the classroom. Islamic ideology has some decrees related to the way men and women should behave when interacting with each other. The data analysis showed that teachers were careful about such religious beliefs when they talk or interact with their students. Teachers in this study told us that they know they should behave properly with other genders as they were living in an Islamic country. One participant commented that:

Some students wear Hijab and are very careful about their communication with men. I know that teachers should be more considerate and cautious when teaching such students. You need to teach and respect every person's ideology at the same time. (Teacher 58, 29/07/2017)

Echoing similar ideas, a female teacher mentioned that:

I know that religion is an important issue for many students and teachers. Sometimes it affects the level of friendliness or proximities in the classroom. When teaching, I think my religious beliefs and others can influence the way I greet, teach and interact. (Teacher 61, 07/10/2017)

Also, it was found that religious beliefs affected female teachers more than male ones. Female teachers mentioned that the institute mandated that they wore hijab when they attend the class. One teacher referred to this and believed that the institute's strictness about clothing and teachers' behavior has increased a more formal classroom atmosphere and decreased rapport level in the class. As she commented:

When you dress like that, you'll obviously seem very religious and formal. So the students will try to behave formally and keep the distance. We are pressured to wear only black clothes. I'm not a psychologist but I'm sure this has some effects on students' attitude toward teachers and their teaching. (Teacher 41, 08/10/2017)

Another teacher told us that she did not think that the language institute was that strict about religious issues and this has affected her views about teaching. As she commented:

I didn't think that they were that fussy about religious issues and hijab. I was always careful not to be blamed for the way I clothed. (Teacher 37, 09/10/2017)

A male teacher noted that the officials closed the school for two days because some teachers in the institute wore ties. As he commented:

They said that this is not congruent with the Islamic ideology and might westernize the students in terms of culture and behavior. (Teacher 12, 12/10/2017)

All in all, the teachers' ideological issues had a role in teaching and teachers' beliefs, but they were related to distal roles/effects and not of immediate influence on teachers' LTCs.

4.5. Addressing interrelations and interconnections

The results of this study indicated that factors at different levels influenced LTC. However, the evidence also suggested that factors affecting LTC were not distinct but interrelated. Figure 2 shows the factors that were identified through qualitative data analysis (it should be noted that these factors are not pre-defined in the

ecological framework, which only provided a broad frame for scaffolding the inductively generated codes). The factors in the inner circles fall within a larger circle at a larger ecosystem level which proves the interrelation among the factors affecting teachers' LTCs. The results also indicated that a coordination of various individual, contextual and environmental variables involved in shaping teachers' cognitions. For example, the data indicated that a teacher's beliefs about his profession were positively influenced by his mood and emotions; collaboration and collegiality also strengthened these positive beliefs. As one participant commented:

I really like language teaching and want to become a good teacher. I think my relationship with my colleagues also helps me to like language teaching more and more. My intrinsic interest in teaching and our institute's atmosphere has heightened the value I attach to teaching. (Teacher 3, 02/07/2017)

Another participant referred to her negative feeling about teaching English and mentioned that her beliefs about language teaching were a product of joint effects of several factors. As she commented:

I think there are several factors involved. I am not satisfied with the payment. Also, the institute I teach at is not a well-equipped one. However, they are very strict about assessing my teaching efficacy. (Teacher 29, 12/09/2017)

Also, a teacher told us that he used to have positive beliefs about teaching but several elements changed his beliefs. He commented:

I am very positive about language teaching. But, my views changed. You know, the government does not regard the language as an important need. You can see this in the educational policy. Also, you don't make much money. The institutes provide you with minimum facilities and the relation with other teachers is competitive. Your feelings become more negative if your English is not very good and you don't pass annual tests such as TKT. (Teacher 44, 01/06/2017)

The results also revealed that there were cases that tensions occurred between variables found to influence LTCs. For example, a teacher who was in favor of using video equipment and facilities expressed reservations because characters in the videos were inappropriately dressed according to Islamic beliefs. Of course, such tensions between factors were relatively few.

All in all, the above excerpts imply that LTC, on the one hand, could emerge from the joint effect of several interacting factors belonging to different ecosystem levels. On the other hand, it can be understood particularly from the last excerpt that LTC is dynamic and various ecological factors could change LTC positively or negatively.

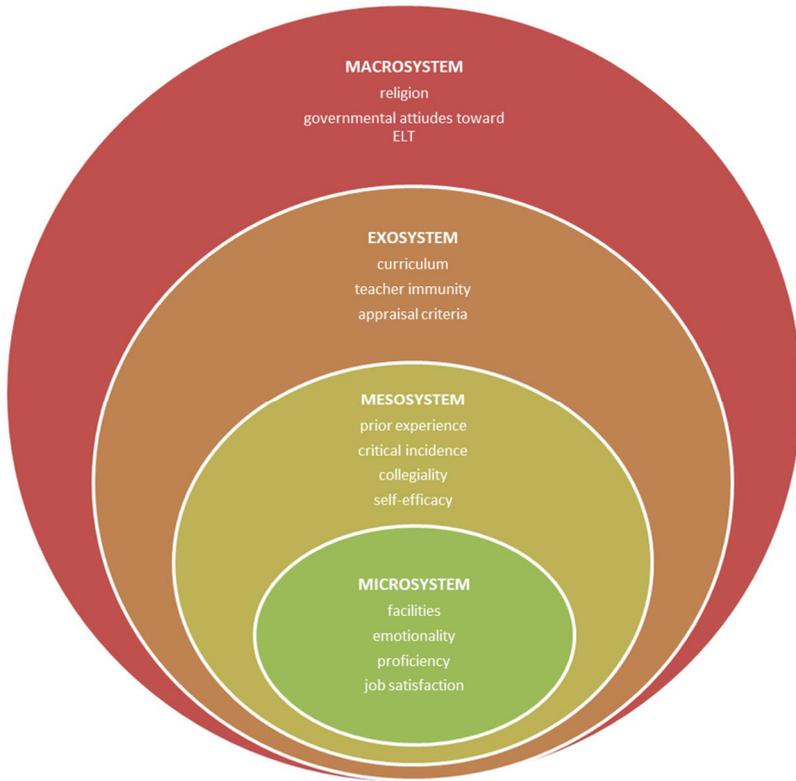


Figure 2 The results of qualitative analysis of factors influencing LTC at different ecological system levels

7. Conclusion

This study used an ecological perspective to examine factors which influenced LTC among EFL teachers in the Iranian context. The analysis of qualitative data indicated that the teachers' LTC was influenced by various factors at the microsystem (e.g., facilities, learner emotionality, job satisfaction and language proficiency), mesosystem (e.g., prior experience, collaboration and collegiality, self-efficacy, and critical incidents), exosystem (e.g., teacher appraisal criteria, curriculum, and teacher immunity), and macrosystem levels (e.g., government attitudes about ELT and religion). The main conclusion which can be drawn from this study is that LTC is subject to different variables at different levels. As the results showed, LTC is not a product of a limited number of factors, but it is a constellation of various distal and proximal factors to the teachers' classes. The findings also bear witness to the complexity of LTC. The results showed that LTC is not limited to classroom-level factors, and it is a joint effect of interaction between different social, cultural, and contextual factors. Moreover, the results in

this study confirm the conclusion by Feryok and Oranje (2015) who noted that LTC is a dynamic system. From this study, it can be found that LTC is always subject to change and small variables/changes can lead to changes in teachers' LTCs.

Future research in the field can examine how LTC influences different learning opportunities which they provide for learners. In other words, future research can be conducted to see how teachers' LTC influences techniques and strategies used to teach reading, listening, speaking, and writing. Furthermore, the obtained findings in this study indicated that learners' characteristics have an impact on LTC. As such, future research can be conducted to see how LTC affects/is affected by learner variables such as proficiency. Next, continued research on LTC can minimize the incongruence between teachers' practices and beliefs and also uncover the social, psychological and environmental elements impeding teaching practice (Borg, 2015). Finally, examining the processes in which LTCs are formed may provide some insights into creating positive cognitions and ruling out negative ones. The main implication in this study is that teachers need to be encouraged to involve in self-analysis of the factors which may affect their cognitions about L2 development. This may result in formulating self-awareness with regard to positive and negative thoughts which can be later reinforced and ruled out if not beneficial.

This study has some implications for language teaching programs and language schools and institutes. For example, it showed that teachers' cognitions are affected by facilities and teacher appraisal criteria. Language programs or institutes can provide their teachers with the most recent educational technology equipment so that teachers develop positive LTCs and think of language teaching as a modern and prestigious profession. In regards to teacher appraisal criteria, they can clarify the metrics for their teachers and create the feeling that these assessments are useful for their professional development. Also, language institutes can create teaching environments rich in collaboration and collegiality in which teachers work in a friendly atmosphere and help each other to develop their teaching skills. As for ELT in Iran, the findings of this study may help to understand and address the concerns, needs, and expectations of Iranian language teachers, and therefore, create a more efficient environment for language teaching in the country.

The study also has some limitations. These relate to the size of the sample and the nature of qualitative research, which limit the generalizability of the findings. While presenting detailed information on participants' views and stories, triangulation studies including quantitative instruments are needed to present a more complete picture of the phenomenon under study. Finally, it should be noted that studies investigating LTC through the macro level lens are certainly subject to factors which might be culture-specific and institutionally dependent. Hence, future research from different contexts and backgrounds is required before drawing unequivocal conclusions about EFL teachers' cognition.

References

- Berg, S., Benz, C. R., Lasley, T., & Raisch, D. (1998). Exemplary technology use in elementary classroom. *Journal of Research on Computing in Education*, 31(2), 111-122. <http://doi.org/10.1080/08886504.1998.10782245>
- Bernat, E. (2008). Beyond beliefs: Psycho-cognitive, sociocultural and emergent ecological approaches to learner perceptions in foreign language acquisition. *Asian EFL Journal*, 10(3), 7-27.
- Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, 36(2), 81-109. <http://doi.org/10.1017/S0261444803001903>
- Borg, S. (2015). *Teacher cognition and language education: Research and practice*. London: Bloomsbury.
- Borg, S. (2018). Evaluating the impact of professional development. *RELC Journal*, 49(2), 195-216. <http://doi.org/10.1177/0033688218784371>
- Bronfenbrenner, U. (1993). The ecology of cognitive development: Research models and fugitive findings. In R. H. Wozniak & K. W. Fischer (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 3-44). Hillsdale, NJ: Erlbaum.
- Burns, A., Freeman, D., & Edwards, E. (2015). Theorizing and studying the language-teaching mind: Mapping research on language teacher cognition. *Modern Language Journal*, 99(3), 585-601. <http://doi.org/10.1111/modl.12245>
- Corbin, J., & Strauss, A. (1996). Analytic ordering for theoretical purposes. *Qualitative Inquiry*, 2(2), 139-150. <http://doi.org/10.1177/107780049600200201>
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: SAGE. <http://doi.org/10.4135/9781452230153>
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA.: SAGE.
- Crooks, G. (2015). Redrawing the boundaries on theory, research, and practice concerning language teachers' philosophies and language teacher cognition: Toward a critical perspective. *Modern Language Journal*, 99(3), 485-499. <http://doi.org/10.1111/modl.12237>
- Cummins, J., & Early, M. (2015). *Big ideas for expanding minds: Teaching English language learners across the curriculum*. Ontario: Pearson Canada
- Cummings, A. (2008). Spanish teachers' beliefs and practices on computers in the classroom. *Hispania*, 1, 73-92.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford: Oxford University Press.

- Farrell, T. S. (2015). *Reflective language teaching: From research to practice*. London: Bloomsbury.
- Farrell, T. S. (2016). The practices of encouraging TESOL teachers to engage in reflective practice: An appraisal of recent research contributions. *Language Teaching Research*, 20(2), 223-247. <http://doi.org/10.1177/1362168815617335>
- Farrell, T. S., & Kun, S. T. K. (2007). Language policy, language teachers' beliefs, and classroom practices. *Applied Linguistics*, 29(3), 381-403. <http://doi.org/10.1093/applin/amm050>
- Farrell, T. S., & Lim, P. C. P. (2005). Conceptions of grammar teaching: A case study of teachers' beliefs and classroom practices. *TESL-EJ* 9(2), 1-13.
- Feryok, A. (2010). Language teacher cognitions: Complex dynamic systems? *System*, 38(2), 272-279. <http://doi.org/10.1016/j.system.2010.02.001>
- Feryok, A., & Oranje, J. (2015). Adopting a cultural portfolio project in teaching German as a foreign language: Language teacher cognition as a dynamic system. *Modern Language Journal*, 99(3), 546-564. <http://doi.org/10.1111/modl.12243>
- Freeman, D. (2016). *Educating second language teachers*. Oxford: Oxford University Press.
- Ghafar Samar, R., & Moradkhani, S. (2014). Codeswitching in the language classroom: A study of four EFL teachers' cognition. *RELC Journal*, 45(2), 151-164. <http://doi.org/10.1177/0033688214534796>
- Hiver, P. (2017). Tracing the signature dynamics of language teacher immunity: A retrodictive qualitative modelling study. *Modern Language Journal*, 101(4), 669-690. <http://doi.org/10.1111/modl.12433>
- Hornberger, N. (Ed.). (2003). *Continua of biliteracy: An ecological framework for educational policy, research and practice in multilingual settings*. Clevedon: Multilingual Matters. <http://doi.org/10.21832/9781853596568>
- Johnson, K. E. (1996). The vision versus the reality: The tensions of the TESOL practicum. In D. Freeman & J. C. Richards (Eds.), *Teacher learning in language teaching* (pp. 30-49). New York: Cambridge University Press.
- Karimi, M. N., & Norouzi, M. (in press). Cognitive aging in teachers: L2 teachers' cognitive performance across various stages in their teaching career. *Innovation in Language Learning and Teaching*. <http://doi.org/10.1080/17501229.2018.1466893>
- Kramsch, C. (2002). Language and culture: A social semiotic perspective. *ADFL Bulletin*, 33(2), 8-15. <http://doi.org/10.1632/adfl.33.2.8>
- Kramsch, C. (2008). Ecological perspectives on foreign language education. *Language Teaching*, 41(3), 389-408. <http://doi.org/10.1017/S0261444808005065>

- Kramsch, C., & Steffensen, S. (2007). Ecological perspectives on second language acquisition and socialization. In N. Hornberger & P. Duff (Eds.) *Encyclopaedia of language and education* (Vol. 8, pp. 17-28). Heidelberg: Springer Verlag.
- Kubanyiova, M. (2015). The role of teachers' future self-guides in creating L2 development opportunities in teacher-led classroom discourse: Reclaiming the relevance of language teacher cognition. *Modern Language Journal*, 99(3), 565-584. <http://doi.org/10.1111/modl.12244>
- Kubanyiova, M., & Feryok, A. (2015). Language teacher cognition in applied linguistics research: Revisiting the territory, redrawing the boundaries, reclaiming the relevance. *Modern Language Journal*, 99(3), 435-449. <http://doi.org/10.1111/modl.12239>
- Leather, J., & van Dam, J. (2003). Towards an ecology of language acquisition. In J. Leather & J. Van Dam (Eds.), *Ecology of language acquisition* (pp. 1-30). Dordrecht: Kluwer Academic Publishers. <http://doi.org/10.1007/978-94-017-0341-3>
- Moodie, I. (2015). *Grounded narrative inquiry into language teacher cognition: Stories and case studies on English language teaching in South Korea*. Doctoral dissertation, University of Otago.
- Moodie, I. (2016). The anti-apprenticeship of observation: How negative prior language learning experience influences English language teachers' beliefs and practices. *System*, 60, 29-41. <http://doi.org/10.1016/j.system.2016.05.011>
- Moodie, I., & Feryok, A. (2015). Beyond cognition to commitment: English language teaching in South Korean primary schools. *Modern Language Journal*, 99(3), 450-469. <http://doi.org/10.1111/modl.12238>
- Muhlhausler, P. (1996). *Linguistic ecology: Language change and linguistic imperialism in the Pacific Region*. London: Routledge.
- Ng, E. K. J., & Farrell, T. S. C. (2003). Do teachers' beliefs of grammar teaching match their classroom practices? A Singapore case study. *English in Singapore: Research on Grammar*, 2, 128-137.
- Nunan, D. (2001). *Task-based language teaching*. Cambridge: Cambridge University Press.
- Rahmani Doqaruni, V. (2017). Communication strategies in experienced vs. inexperienced teachers' talk: A sign of transformation in teacher cognition. *Innovation in Language Learning and Teaching*, 11(1), 17-31. <http://doi.org/10.1080/17501229.2015.1009071>
- Ricento, T. (2000). Historical and theoretical perspectives in language policy and planning. *Journal of Sociolinguistics*, 4(2), 196-213. <http://doi.org/10.1111/1467-9481.00111>

- Richards, J. C., & Farrell, S. C. (2005). *Professional development for language teachers: Strategies for teacher learning*. Cambridge: Cambridge University Press. <http://doi.org/10.1017/CBO9780511667237>
- Sadeghi, K., & Richards, J. C. (2016). The idea of English in Iran: An example from Urmia. *Journal of Multilingual and Multicultural Development*, 37(4), 419-434. <http://doi.org/10.1080/01434632.2015.1080714>
- Sharifian, F. (2010). Cultural conceptualisations in intercultural communication: A study of Aboriginal and non-Aboriginal Australians. *Journal of Pragmatics*, 42(12), 3367-3376. <http://doi.org/10.1016/j.pragma.2010.05.006>
- Soodmand Afshar, H., & Doosti, M. (2016). An investigation into factors contributing to Iranian secondary school English teachers' job satisfaction and dissatisfaction. *Research Papers in Education*, 31 (3), 274-298. <http://doi.org/10.1080/02671522.2015.1037335>
- Tedick, D. J. (2009). K-12 language teacher preparation: Problems and possibilities. *Modern Language Journal*, 93(2), 263-267. http://doi.org/10.1111/j.15404781.2009.00860_2.x
- Van Lier, L. (2004). *The ecology and semiotics of language learning: A sociocultural perspective*. Norwell: Kluwer Academic Publishers. <http://doi.org/10.1007/1-4020-7912-5>
- Woods, D. (1996). *Teacher cognition in language teaching: Beliefs, decision-making and classroom practice*. Cambridge: Cambridge University Press.
- Wright, T. (2010). Second language teacher education: Review of recent research on practice. *Language Teaching*, 43(3), 259-296. <http://doi.org/10.1017/S0261444810000030>
- Yaghoubinejad, H., Zarrinabadi, N., & Nejadansari, D. (2017). Culture-specificity of teacher demotivation: Iranian junior high school teachers caught in the newly-introduced CLT trap! *Teachers and Teaching*, 23(2), 127-140.
- Yunus, M. M., Salehi, H., & Amini, M. (2016). EFL teachers' cognition of teaching English pronunciation techniques: A mixed-method approach. *English Language Teaching*, 9(2), 20. <http://doi.org/10.5539/elt.v9n2p20>
- Zarrinabadi, N., & Mahmoudi-Gahrouei, V. (2018). English in contemporary Iran. *Asian Englishes*, 20(1), 81-94. <http://doi.org/10.1080/13488678.2017.1389147>