

Developing Productive Teacher Immunity by Providing Tailor-Made Teacher Education: A Constructive Endeavor?

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Abstract

The present study strived to determine the utility of tailor-made and learner-difference-based teacher education for the amelioration of the EFL teachers' productive teacher immunity. To this end, 62 EFL teachers were selected from 12 language institutes in Urmia, Iran. The participants were randomly assigned to an experimental and a control group and were asked to complete the teacher immunity questionnaire prior to the onset of the treatment sessions. In the treatment phase of the study, the experimental group received a tailor-made teacher immunity education on the basis of the overarching sub-constructs of the teacher immunity construct using a web conferencing system in ten sessions during a five-week period. Notwithstanding, the control group received a learner-difference-based teacher education based on the predominant learner factors. Finally, both groups filled out the pertinent teacher immunity questionnaire anew, in order to examine the efficacy of the aforementioned treatments for the betterment of the teachers' productive teacher immunity. The results of the study accentuated the fact that the EFL instructors' teacher immunity was not impervious to the teacher education intervention. Furthermore, the tailor-made teacher immunity education had a more favorable impact on the improvement of the teachers' productive teacher immunity. The findings might provide teacher educators with certain guiding principles that might empower them to revamp the current teacher education courses and tailor their education to meet the language teachers' needs.

Keywords: Learner Differences, Learner-Difference-Based Teacher Education, Tailor-Made Teacher Education, Teacher Characteristics, Teacher Immunity

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INTRODUCTION

Any educational setting has teachers playing the crucial role of "critical pillars" (Khani & Mirzaee, 2014, p. 1). They are, as Hiver and Dörnyei (2017, p. 405) declare, the "architects of society" and enact a crucial part in the vitality of the classroom ecology and learners' involvement within an educational environment (Dörnyei & Kubanyiova, 2014; as cited in Hiver 2017). Despite language learner psychology which is a well-established and well-researched area (Mercer, Oberdorfer, & Saleem, 2016; Sampson, 2016), research on language teacher psychology is still in its infancy (Collie, Granziera, & Martin, 2018; Mercer et al., 2016). Language teachers' psychological well-being is comprised of different novel constructs in need of further development and research to be fine-tuned, and the concept of "teacher immunity" is no exception here. Teacher immunity, a construct borrowed from the field of medicine, was metaphorically used by Hiver (2015) to characterize the psychological suit of armor that is developed by the language teachers in order to relieve the nervous tension which they feel in their workplace. It is a context-bound, dynamic construct stemming from difficult conditions arising in the classroom (Hiver, 2017). In effect, this type of immunity is analogous to the biological immunity which inoculates the body against diverse kinds of viral and bacterial diseases and infections among other harmful microorganisms. Nevertheless, this construct has proven to be a two-edged sword that might have either a facilitating or debilitating impact on the teachers' instructional efficiency (Hiver & Dörnyei, 2017). Its positive and negative effects can be manifested through the way teachers successfully deal or fail to deal with unexpected adversities of the educational environment. Hiver (2017) accentuated the fact that there is a need to probe the reverberations of teacher training courses for the enhancement of the teachers' dynamic teacher immunity.

Teacher learning and education is one of the most critical issues in the education reform, which paves the way for both teachers and learners by improving teachers' teaching skill (Desimone, Smith, & Frisvold, 2007;

Smith, Desimone, & Ueno, 2005) and students' accomplishment (Desimone, Smith, Hayes, & Frisvold, 2005). These courses accelerate teachers' awareness of and their adaptation to unexpected necessities of classroom environment and dynamics of teaching situation (Desimone, 2009). By way of a durable display of how teachers respond in case of difficulty and disorders which might arise in the classroom (Haseli Songhori, Ghonsooly, & Afraz, 2018), it seems that teacher immunity can be facilitated through effective teacher education courses. However, in spite of the fact that teacher immunity has been investigated in relation to different constructs, in general and its sub-constructs, in particular, and that existing body of literature contains teacher education studies investigating teachers' professional development, teacher immunity and teacher education have not been integrately focused on. To meet these objectives, the present study was an attempt to answer Hiver's (2017) call for the examination of the impacts of teacher education on the development of teacher immunity so that these educational courses become more attuned to the language teachers' needs. More specifically, a number of the relevant studies of teacher immunity (e.g. Noughabi, Amirian, Adel, & Zareian, 2020) have made an attempt to determine the degree to which teacher immunity sways and is affected by the other teacher factors including the language teachers' personality factors, personality traits, cognitive factors, and demographic characteristics among others. Moreover, some of the pertinent studies (e.g. Sarıçoban & Kırmızı, 2021) have strived to determine the impact of the constituting factors of this construct on the teachers' classroom performance. Furthermore, a group of the studies in second and foreign language learning contexts (e.g. Alzahrani & Althaqafi, 2020; Lindvall, Helenius, & Wiberg, 2018, among others) have examined the impact of teacher education on the language teachers' development of pedagogical skills. Finally, certain studies (e.g. Wang, Derakhshan & Azari Noughabi, 2022) have made an endeavor to expound on the interplay between the language instructors' teacher immunity, psychological well-being, and work engagement. Nevertheless, the relevant studies have disregarded the extent

to which teacher education may ameliorate the language instructors' teacher immunity in diverse academic settings. This issue accentuates the need for more empirical studies which deal with the above-mentioned issue in foreign language contexts including the EFL context of Iran.

LITERATURE REVIEW

Teacher Immunity

Mainly, the notion of teacher immunity was first proposed by Hiver (2015) and Hiver and Dörnyei (2017) through which teachers, here language teachers, protect themselves from unpleasant effects of various disruptions that might menace their identity and motivation (Hiver, 2016; Hiver & Dörnyei, 2017). It was defined by Hiver (2017) as “a robust armoring system that emerges in response to high-intensity threats and allows teachers to maintain professional equilibrium and instructional effectiveness” (p. 269) and was used to explore ways to maximize language teachers' effectiveness and psychological well-being (Hiver, 2015). It is a dual-natured concept. In some cases, it might be *productive* and allay the teachers' grave misgivings about their efficacy, alleviate their psychological problems, and stifle their pathological and negative feelings about their profession and working conditions (Hiver 2017). In other conditions, the biological immunity overacts to innocuous microorganisms or environmental factors and causes autoimmune diseases. Similarly, teacher immunity might develop into a *maladaptive* form which can thwart the teachers' academic development, turn them into hardened cynics, intensify their rigid adherence to their own strict principles, and expedite the fossilization of their perspectives on second language instruction (Hiver & Dörnyei, 2017).

According to Hiver and Dörnyei (2017), teacher immunity “bridges individual concerns with wider contextual considerations, this concept is a central factor at the heart of some of the key concerns in language teaching profession” (p.407). In general, teacher immunity depends on three

components (Hiver & Dörnyei, 2017): Normally, we can liken it to a naturally attained structure; it is dual-natured; and it is an integral part of teacher's professional identity. In the main, language teacher immunity can be reckoned as a beneficial concept in contributing further discernment into teacher's experiences, cognition, and identities (Hiver & Dörnyei, 2017), and since it "affects almost everything that teachers do in their careers" (Hiver, 2015, p.226), knowing the means through which this immunity forms is vital. A close scrutiny of the above-mentioned discussions of teacher immunity highlights the fact that it is closely associated with positive psychology (Wang et al., 2022). Positive psychology accentuates the fact that the language teachers are likely to produce a magnificent performance when they achieve a healthy state of mind and live a happy life. In this kind of psychology, the teachers' ability to address their problems stems from their perceptions of their strengths to improve the quality of their instruction and to develop and hone efficient pedagogical skills. This contention is congruent with the assumption that teacher immunity empowers the teachers to reduce their high nervous tension by taking advantage of their stress-management skills and abilities (Hiver 2017). Consequently, teacher immunity might be delineated as a concept within positive psychology (Wang et al., 2022).

Teacher Immunity Sub-constructs

Hiver (2017) averred that teacher immunity is comprised of seven overarching sub-constructs, including *openness to change*, *attitudes to teaching*, *classroom affectivity*, *coping*, *resilience*, *teaching self-efficacy*, and *burnout*. Generally, readiness to change is generally an individual's psychological acknowledgement of structural or conservational modifications (Wanberg & Banas, 2000). To be more specific, as Hiver (2017) explained, openness to change refers to the teachers' cognizance of the consequential role of changes in their profession and their voluntary and intentional endeavors to comply with them in the pertinent conditions.

In fact, viewpoints toward teaching characterize the attitudes that the language teachers assume towards their instructional efficacy and performance in the context of the classroom. Classroom affectivity encompasses the wide range of emotions that teachers experience during the process of their teaching. Coping comprises the strategies that teachers formulate and implement, of their own volition, in order to stifle their negative emotions in their classes. They are defined by Compas et al. (2001) as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or air circumstances” (p.89). Coping is a teacher’s regulation of actions which are put into practice in case of stressful situations; therefore, it contributes to the emergence of immunity. Resilience refers to the teachers’ capability to acclimatize to new conditions and avert their emotional crises. It is “the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances” (Pearce & Morrison 2011, p.48). Resilience is a developmental and dynamic concept and not an innate one (Gu & Day, 2007).

Self-efficacy generally reflects “people's judgments of their capabilities to organize and execute a course of action required to attain designated types of performances” (Bandura, 1986, p. 391). Teaching self-efficacy is characterized as the teachers’ perspectives regarding their own ability to deal effectively and adequately with the pertinent problems and issues during second language teaching. Finally, burnout constitutes a psychological multidimensional syndrome which stems from the factors that put the teachers under considerable stress over a long period of time and is mostly related with organizational and occupational stress (Maslach & Leiter, 2008). It is not an innate or personal trait and has three interrelated dimensions: a) Emotional exhaustion: “feeling emotionally and physically drained by one’s work” (Richards, Hemphill, & Templin, 2018, p.3); b) Depersonalization: an individual’s negative, unsympathetic, and callous attitudes toward others in the workplace (Richards et al., 2016); and c) Reduced personal accomplishment: a dearth of accomplishment and

efficiency in one's profession (Maslach & Leiter, 2008).

Research on Teacher Immunity and Teacher Education

In view of the increasing number of studies (e.g. Ahmadi, Amiryousefi, & Hesabi, 2020; Haseli Songhori et al., 2018; Haseli Songhori, Ghonsooly, & Afraz, 2020; Hiver, 2015, 2016, 2017, 2018; Hiver & Dörnyei, 2017; Rahmati, Sadeghi, & Ghaderi, 2019, Wang et al., 2022), *teacher immunity* has gained substantial courtesy in the domain of second language learning. It has been investigated in relation to various independent constructs such as independence, feelings, and commitment (Noughabi et al., 2020), as well as its constituent constructs like teacher resilience, burnout, attitude, openness, classroom affectivity, and coping (Sarıçoban & Kırmızı, 2021). It is considered to be among the teacher factors such as *teacher identity* (Pellini, 2016), *teacher reflection* (Cirocki & Farrell, 2017; Farrell, 2015, 2016, 2018, 2019), *professional development* (Cirocki & Farrell, 2019), *teacher burnout* (Akbari & Eghtesadi, 2017; Farshi & Omranzadeh, 2014; Ghanizadeh & Ghonsooly, 2014; Ghanizadeh & Jahedizadeh, 2015, 2016; Gholami, 2015; Sadeghi & Khezrlou, 2016), and *job satisfaction* (Hendrawijaya, Hilmi, Hasan, Imsiyah, & Indrianti, 2020; Khun-inkeeree, Mohd Yaakob, WanHanafi, Yusof, & Omar-Fauzee, 2021; Rezaee, Khoshsima, Zare-Bahtash, & Sarani, 2018; Soodmand Afshar & Doosti, 2015, 2016).

Teacher education courses endeavor to make the teachers cognizant of the dynamic nature of the teaching profession and to facilitate and expedite their acclimatization to the requisite alterations and modifications (Desimone, 2009). Teachers' participation in these courses has an advantageous impact on their classroom efficiency since it revamps their instructional contentions, intensifies their capability to adopt innovative approaches to second language instruction, and empowers them to take advantage of more efficient teaching practices (Desimone, 2009). A close perusal of the pertinent literature underscores the fact that a large number of empirical studies of teacher education (e.g. Alzahrani & Althaqafi, 2020;

Lindvall et al., 2018; Penuel, Gallagher, & Moorthy, 2011; Yang, Liu, & Gardella Jr., 2018; Yoon, Liu, & Goh, 2010) have focused on teachers' professional development. Nevertheless, it can be seen that there is a dearth of research on the utility of teacher education courses for the development of productive teacher immunity. Furthermore, the relevant teacher immunity studies have examined the sub-constructs of teacher immunity (e.g. Hiver, 2015, 2017), different varieties of teacher immunity (Hiver & Dörnyei, 2017), development of teacher immunity in diverse academic settings (Rahmati et al., 2019), and the predominance of productive or maladaptive teacher immunity among language teachers (Haseli Songhori et al., 2018). The lack of empirical studies of teacher immunity in the above-mentioned teacher education courses is conspicuous.

To be more specific, most of the teacher education courses endeavor to provide the teachers with detailed information on the various aspects of the target language including its skills among others and strive to make the teachers aware of the efficient methodological techniques and strategies which can be implemented to assist the language learners to develop a satisfactory second language competence (Ingvarson, Meiers, & Beavis, 2005). This issue highlights the fact that the learner and teacher factors have not received sufficient attention in teacher education courses. Learner factors encompass variables such as *learning styles*, *motivation*, *learner beliefs*, *cognitive styles*, and *attitudes towards language learning*, among others which "apply to everybody and on which people differ by degree" (Dörnyei, 2005, p. 4). On the other hand, teacher factors encompass characteristics including *teacher identity*, *teacher reflection*, *teacher burnout*, and *teacher immunity*, among others that affect the teachers' academic performance. Research on the consequential role of the above-mentioned learner and teacher factors in the field of second language acquisition may have implications for teacher-education course developers, teacher educators, and teachers. More specifically, it can empower the course developers and teacher educators to revamp the content and methodology of these courses to provide the teachers with more tailor-made

education. Furthermore, it can enable the teachers to avert their emotional crises and relieve their psychological tension in the context of the classroom. To this end, there is clearly a need to bring teacher immunity under close scrutiny, taking into consideration the aforementioned factors.

PURPOSE OF THE STUDY

As was mentioned above, the development of teacher immunity has not been empirically inspected through the lens of teacher education. Moreover, the contributing impacts of learner and teacher factors on the productivity of teacher immunity have not been properly paid attention to. That being the case, the current study strived to cope with these issues in the EFL context of Iran by utilizing from tailor-made and learner-difference-based teacher education in order to ameliorate the in-service EFL teachers' productive teacher immunity. More specifically, it attempted to answer the following research questions:

1. Do tailor-made teacher-immunity teacher education courses ameliorate the Iranian EFL teachers' productive teacher immunity?
2. Do learner-difference-based teacher education courses ameliorate the Iranian EFL teachers' productive teacher immunity?
3. Are tailor-made teacher-immunity teacher education courses more effective for the amelioration of the Iranian EFL teachers' productive teacher immunity than the learner-difference-based teacher education courses?

METHOD

Participants

In this study, the researchers strived to select the participants from among the in-service experienced EFL teachers who taught general English courses at language institutes in Urmia, Iran. Experience in language instruction might be defined as the capability to ameliorate the learners' second

language acquisition by engaging them in diverse learning tasks, providing the learners with constructive cognitive and affective feedback, being accessible and approachable, and prompting the learners to take account of their own language learning, among others. Nevertheless, in the present study, experience was conceptualized as the years of language instruction in pertinent academic settings. The researchers focused on these teachers due to the fact that having adequate teaching years is a prerequisite to the development of stable teacher immunity. Furthermore, the researchers hand-picked the language institutes as the target academic settings since teachers are generally inclined to develop stable teacher immunity when they are forced to comply with the strict rules of the language institutes. Considering these issues, the researchers categorized the EFL teachers in the context of the study as novice and experienced teachers based on Kim and Roth's (2011) definition of teacher experience. More specifically, teachers with five or less years of teaching experience were classified into the novice category. On the other hand, the teachers whose teaching years exceeded five years were classified into the experienced category. Taking the above-mentioned issues into consideration, the researchers selected 62 EFL teachers (34 male & 28 female) at 12 language institutes as the participants of the study. These participants had B.A., M.A., or PhD degrees in English Language and Literature, Teaching English as a Foreign Language, or English Translation fields. Moreover, they ranged in age from 28 to 36 and were native speakers of Turkish.

Instrumentation

Teacher Immunity Questionnaire

In order to examine the participants' teacher immunity prior and posterior to the treatment of the study, the researchers utilized Hiver's (2017) teacher immunity questionnaire. This instrument encompassed 39 items which were rated on a 6-point Likert scale ranging from *strongly agree* to *strongly disagree*. Hiver (2017) developed this questionnaire on the basis of seven

inter-related sub-constructs which constituted the teacher immunity construct. These sub-constructs were comprised of *attitudes towards teaching, self-efficacy, openness to change, resilience, classroom affectivity, burnout, and coping*. As Hiver (2017) pointed out, the results of statistical analyses showed that the validity and reliability indices of this questionnaire were acceptable. Nevertheless, the researchers examined the reliability of the questionnaire in a pilot study which involved 34 participants whose characteristics were similar to the characteristics of the participants in the main study. The results of the test-retest reliability analysis showed that the questionnaire had an acceptable reliability index (.88) and could be utilized in the EFL context of Iran.

Big Blue Button Web Conferencing System

In the present study, the researchers took advantage of *Big Blue Button* web conferencing system to provide the participants of the experimental group and the control group with their pertinent teacher education due to the outbreak of COVID19 which prevented the researchers from offering in-person courses to the selected participants. This system provides its users with a user-friendly interface and enables them to share diverse kinds of audiovisual materials with other users, utilize the camera feature to hold video-based meetings, use the chat box and the shared notes features of the system in order to exchange ideas with the other users in an efficient way, share their screen with the other attendees, take advantage of the whiteboard to express their intentions, join breakout rooms to carry out diverse types of tasks, and permit the other attendees to download their shared documents.

Data Collection Procedure

The present study used a quasi-experimental pretest-treatment-posttest design to respond to the pertinent research questions. Accordingly, first, the researchers identified 12 language institutes which had larger numbers of students among the language institutes in Urmia, Iran, and had set high standards for the recruitment of the EFL teachers. Second, they contacted

the administration department of the pertinent institutes, informed them about the general objectives of the study, and asked them to provide the researchers with the WhatsApp numbers of the teachers whose total years of English instruction experience exceeded 5 years and who were inclined to participate in the study. During a one-week period, the researchers were provided with the numbers of 71 EFL teachers. Third, during a one-week period, the researchers contacted these teachers, apprised them of the content, date, and time of the treatment sessions, assured them of their anonymity, and ensured them that firm confidentiality was upheld regarding their data. Nonetheless, the teachers were not provided with detailed information regarding the difference between the main treatment and the placebo of the study. At this stage, nine EFL teachers from different institutes withdrew from the study due to a number of issues such as the lack of flexibility in their teaching schedule and the long duration of the study, among others. Fourth, the researchers randomly assigned the remaining 62 participants to an experimental group and a control group. There were 31 participants (13 female & 18 male) in the experimental group and 31 participants (16 female & 15 male) in the control group. Fifth, prior to the onset of the treatment of the study, the researchers administered Hiver's (2017) teacher immunity questionnaire to the participants in both groups as a pretest using a Google Form in order to guarantee their homogeneity in terms of their teacher immunity. Sixth, the participants in each of the pertinent groups received their pertinent treatments in 10 ninety-minute sessions during a five-week period (i.e. 2 sessions in each week) using the *Big Blue Button* web conferencing system.

At this stage of the study, the experimental group was provided with the tailor-made teacher immunity education as the main treatment of the study. To be more specific, in this group, the researchers provided the participants with detailed information on the above-mentioned sub-constructs of teacher immunity and apprised them of the consequential role of teacher immunity in the context of the classroom. Furthermore, the researchers familiarized the participants with the efficacious strategies

which could be implemented to overcome the pertinent adversities in their classes. They endeavored to make the participants cognizant of the fact that they had to establish specific objectives, make an effort to attain their objectives over a logical period of time, learn from their failures, and appreciate the results of their endeavors in order to build self-efficacy. Moreover, the researchers made the participants aware of the stress-management strategies which could assist them to deal with teacher burnout. The researchers advised the participants to take advantage of their peers' support and share their concerns with them, and exercise and focus on relaxing hobbies among others in order to relieve their stress levels in their workplace.

Furthermore, the participants' attention was directed to the fact that their resilience during second language instruction was an overriding consideration. That is, teachers became acutely aware of the fact that they needed to adapt themselves to new situations, systems, techniques, materials, and technology in order to ameliorate their own teaching performance. In addition, the researchers accentuated the significance of coping strategies for the teachers and advised them to take advantage of meditation to resolve the classroom conflicts. In order to deal with the sub-construct of classroom affectivity, the researchers brought the emotions to the teachers' consciousness which they experienced in their workplace. To this end, the participants were asked to ponder on the feelings that come over them during their instruction. Next, they were required to express them using the *chat box*, the *shared notes*, or the *camera* feature of the Big Blue Button conferencing system. At this point, the researchers endeavored to empower the participants to shake off their negative feelings by focusing on the positive aspects of their classes including the learners and the classroom circumstances, among others. Besides, the researchers imparted information on the beneficial and advantageous reverberations of the teaching profession in the society in order to prompt the participants to adopt more positive attitudes towards their own teaching in the classroom. Finally, the researchers made the participants cognizant of the fact that accepting,

undergoing, and enacting academic changes could facilitate and expedite their teaching process in diverse classroom contexts.

Nevertheless, the control group received the placebo treatment of the study in the form of learner-difference-based teacher education during the same period of time. To be more specific, in this group, first, the researchers provided the participants with detailed and useful information on the most prevalent learner factors including learning strategies, learning styles, cognitive styles, motivation, learner beliefs, and attitudes towards language learning. Second, they assisted them to perceive that each of these differences could work to their advantage with the help of sufficient knowledge, and forward and strategic planning. Subsequent to the termination of the main treatment and the placebo treatment, Hiver's (2017) teacher immunity questionnaire was administered to the participants by the researchers as a posttest anew in order to scrutinize the impact of the above-mentioned treatments on their teacher immunity.

Data Analysis

In this study, the researchers used SPSS 20 to perform the data analysis. More specifically, they took advantage of this statistical software platform to determine the descriptive statistics including the mean values and the standard deviation values and to conduct the Kolmogorov-Smirnov and Shapiro-Wilk normality tests. Furthermore, they used the above-mentioned software platform to conduct the independent-samples t-tests and paired-samples t-tests which constituted the inferential statistics of the present study.

RESULTS

Considering the aforementioned objectives, the researchers needed to compare the participants' teacher immunity in both groups prior to the onset of the treatment with their teacher immunity posterior to the pertinent treatment sessions. Furthermore, they had to compare the participants' teacher immunity in the experimental group with the participants' teacher

immunity in the control group. The results of the initial data analysis accentuated the fact that the data of the study did not infringe the assumptions of the parametric tests, since they were interval and were collected independently. Furthermore, they were normally distributed on the basis of the results of Kolmogorov-Smirnov and Shapiro-Wilk tests. Consequently, the researchers used both paired-samples t-test and independent-samples t-test to analyze the data. Prior to the onset of the main treatment and the placebo treatment sessions, the researchers compared the participants' results on the teacher immunity questionnaire in the experimental group with the participants' results on this questionnaire in the control group in order to guarantee their homogeneity with regard to their teacher immunity. Table 1 illustrates the results of this comparison:

Table 1: Comparison between the Results of the eExperimental Group and the Control Group on the Teacher Immunity Pretest

Groups	N	Mean	Std. Deviation	Std. Error Mean
Experimental Group	31	121.68	8.400	1.509
Control Group	31	123.71	6.958	1.250

Meanwhile, to determine the significance of the difference between the results of these groups, the researchers used an independent-samples t-test. These results are shown in Table 2:

Table 2: Independent-Samples t-test of the Results of the Experimental Group and the Control Group on the Teacher Immunity Pretest

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.156	.147	1.037	60	.304	-2.032	1.959	-5.951	1.886
Equal variances not assumed			1.037	57.991	.304	-2.032	1.959	-5.954	1.889

As shown in Table 2, the p-value (.147) in the results of the Levene's Test for Equality of Variances was greater than .05. Therefore, the first line of results (i.e. Equal variances assumed) was used. The p-value .304 (marked as Sig, 2-tailed) in this line of results was greater than .05. Consequently, there was not a significant difference between the results of these groups on the teacher immunity pretest, and they were homogeneous regarding their teacher immunity prior to the onset of the treatment of the study. Figure 1 shows these results.

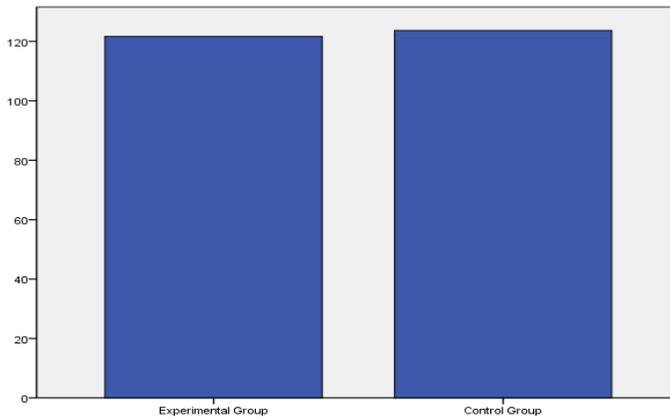


Figure 1: Comparison between the participants' teacher immunity in the experimental group and the control group prior to the onset of the treatment

Taking these results into consideration, the researchers compared the results of the experimental group on the relevant questionnaire of the study before and after the treatment sessions in order to respond to the first research question. Table 3 provides the results of this comparison.

Table 3: Comparison between the Results of the Experimental Group on the Teacher Immunity Pretest and Posttest

	Mean	N	Std. Deviation	Std. Error Mean
Pretest	121.68	31	8.400	1.509
Posttest	140.77	31	12.564	2.257

As indicated in Table 3, the experimental group indicated better performance on the posttest ($M=140.77$) in comparison with the pretest. Albeit this, a paired-samples t-test was used to determine the significance of this difference. The results of this test are presented in Table 4.

Table 4: Paired-Samples t-test of the Results of the Experimental Group on the Teacher Immunity Pretest and Posttest

	Paired Differences				t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pretest - Posttest	-19.097	11.178	2.008	-23.197	-14.996	9.512	30	.000

According to Table 4, the p-value (.000) of the paired-samples t-test was less than .05. Consequently, the difference between the results of this group on the teacher immunity pretest and posttest was significant. Figure 2 depicts these results.

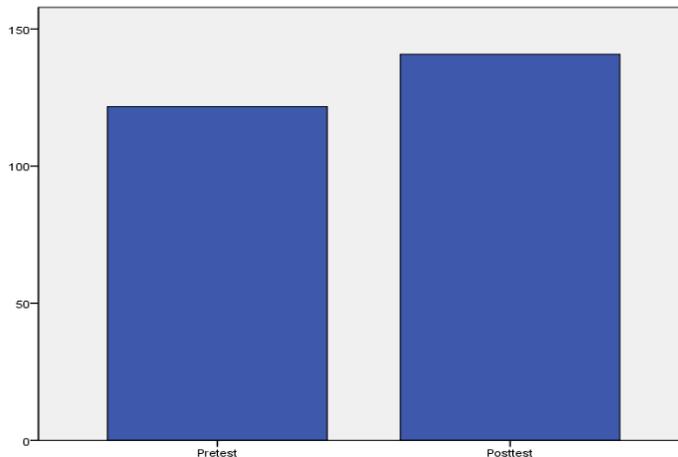


Figure 2: Comparison between the results of the experimental group on the teacher immunity pretest and posttest

The researchers answered the second research question similar to the first research question. To be more specific, they compared the results of the control group on the teacher immunity questionnaire prior to the treatment sessions and after their termination. Table 5 provides these results.

Table 5: Comparison between the Results of the Control Group on the Teacher Immunity Pretest and Posttest

	Mean	N	Std. Deviation	Std. Error Mean
Pretest	123.71	31	6.958	1.250
Posttest	128.58	31	7.500	1.347

Similar to the experimental group, the control group had a better performance on the pertinent posttest compared to the pretest. Nonetheless, the researchers examined the significance of this difference using a paired-samples t-test. The results of this test are presented in Table 6.

Table 6: Paired-samples t-test of the Results of the Control Group on the Teacher Immunity Pretest and Posttest

	Paired Differences				t	df	Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Pretest – Posttest	-4.871	3.423	.615	-6.126	-3.615	-7.923	30	.000

Table 6 indicates that the p-value (.000) of the paired-samples t-test was less than .05. As a result, the difference between the results of the control group on the teacher immunity pretest and posttest was significant. Figure 3 represents these results.

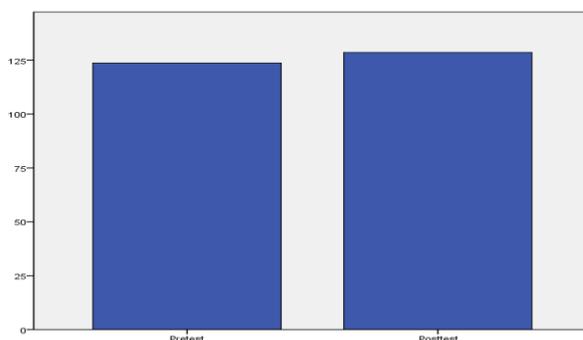


Figure 3: Comparison between the results of the control group on the teacher immunity pretest and posttest

Finally, the researchers compared the results of the experimental group and the control group on the teacher immunity posttest in order to answer the third research question. The results are presented in Table 7.

Table 7: Comparison between the Results of the Experimental Group and the Control Group on the Teacher Immunity Posttest

Groups	N	Mean	Std. Deviation	Std. Error Mean
Experimental Group	31	140.77	12.564	2.257
Control Group	31	128.58	7.500	1.347

The researchers utilized an independent-samples t-test in order to examine the significance of the difference between the results of these groups on the teacher immunity posttest, which are displayed in Table 8.

Table 8: Independent-Samples t-test of the Results of the Experimental Group and the Control Group on the Teacher Immunity Posttest

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	8.374	.005	4.64	60	.000	12.194	2.628	6.937	17.450
Equal variances not assumed			4.64	48.97	.000	12.194	2.628	6.912	17.475

As represented in Table 8, the p-value (.005) of the Levene's Test for Equality of Variances was less than .05. As a consequence, the second line of results (i.e. Equal variances not assumed) was utilized. The p-value .000 (marked as Sig, 2-tailed) in this line of results was less than .05. Therefore, there was a significant difference between the results of these groups on the teacher immunity posttest. The results are depicted in Figure 4.

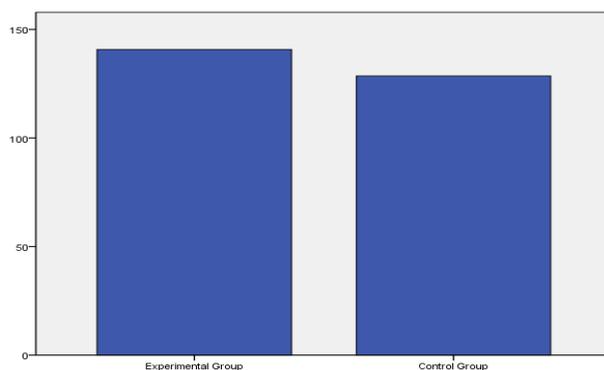


Figure 4: Comparison between the participants' teacher immunity in the experimental group and the control group subsequent to the termination of the treatment

DISCUSSION

The present study strived to determine the degree to which teacher education had an advantageous impact on the Iranian EFL instructors' teacher immunity. Hiver (2017) averred that the maladaptively-immunized teachers' teacher immunity has fossilized, and they remain impassive and unresponsive to the classroom conflicts in diverse situations. The results of the present study do not support Hiver's (2017) contention due largely to the fact that the participants' productive teacher immunity benefited considerably from both tailor-made teacher immunity education and learner-difference-based teacher education. Consequently, teacher immunity should not be conceptualized as an impervious construct that remains immune to

diverse types of interventions including education among others. The results of the study become meaningful in light of positive psychology (Wang et al., 2022). More specifically, these results might be ascribed to the favorable impacts of knowledge and understanding of the teaching profession and the teachers' consequential roles in society on the adoption of positive attitudes towards language instruction. To be more specific, attitudes towards teaching, teaching self-efficacy, and classroom affectivity constitute the three major sub-constructs of teacher immunity that can be swayed by various factors including instruction, among others. In this study, both of the pertinent treatments provided the participants with useful information on various aspects of the classroom and empowered them to adopt more positive attitudes towards them. As a consequence, it can be surmised that the amelioration of the participants' productive teacher immunity stemmed from their positive attitudes towards their profession and their academic competence.

Nonetheless, caution must be exercised about the equation of the results of tailor-made teacher immunity teacher education with the results of the learner-difference-based teacher education. More specifically, the advantageous impact of the placebo treatment of the present study raises the possibility that the attitudes that the teachers adopt towards their learners may constitute a sub-construct of their teacher immunity. Therefore, it can be presumed that other constructs including *teachers' attitudes towards learners* might be subsumed under the overarching teacher immunity construct.

The obtained results of the present study with regard to the first and second research questions accentuated the fact that tailor-made teacher immunity education and learner-difference-based education ameliorated the EFL teachers' productive teacher immunity. There is a lack of sufficient empirical studies in this regard. Nevertheless, in general, these results are similar to the results of the studies by Derakhshan, Coombe, Zhaleh, and Tabatabaeian (2020), Sadeghi and Ashegh Navaie (2021), Mahmoodi, Rashtchi, and Abbasian (2021), and Derakhshan, Greenier, and Fathi

(2022) which have highlighted the fact that teacher education provides the teachers with auspicious and propitious opportunities for professional development. In most of the foreign language learning contexts including the Iranian EFL context, language teachers are not able to actualize their continuous professional development. More specifically, the preponderance of the pre-service EFL teachers is trained to teach specific textbooks in their relevant settings. These training courses are regarded to be the endpoint of teacher education and convince most of these teachers of their professional preparation and sufficiency. Moreover, the scant in-service training courses in certain institutes and schools make an endeavor to familiarize the teachers with the new techniques and strategies which have been formulated by the designers of the pertinent curricula to teach the skills and aspects of the target language. It is clear that the aforementioned courses do not transcend the training level and cannot be considered genuine teacher education courses due to the fact that they do not empower the teachers to develop and hone their pedagogical skills over the course of their service years. Considering these issues, it can be averred that the positive outcomes of both the tailor-made and learner-difference-based teacher education interventions in the present study stem from the utility of these interventions for apprising the language teachers of the consequential role of professional development and prompting them to actualize this kind of development in their relevant academic settings and contexts.

The results of the study concerning the third research question underlined the supremacy of the tailor-made teacher immunity teacher education over the learner-difference-based teacher education regarding the improvement of the EFL teachers' productive teacher immunity. Similar to the first and the second research questions, there is a lack of research on the results of the study with regard to the third research question. Nevertheless, in general, these results underpin the results of the studies by Postholm (2012), Liao, Ottenbreit-Leftwich, Karlin, Glazewski, and Brush (2017), Parsons, Hutchison, Hall Parsons, Ives, and Leggett (2019), and Sadeghi and Ashegh Navaie (2021) who have highlighted the fact that tailor-made

teacher education is more advantageous for the EFL teachers' teaching efficiency in comparison with the traditional teacher training. The obtained results of the present study regarding the third research question may be attributed to the advantageous impact of reflective practice on the teachers' attitudes towards their self-efficacy. Pennington and Richards (2016) and Farrell (2016) averred that pondering over one's teaching practices in order to become cognizant of the pertinent factors that sway the instruction efficacy is a prerequisite for the amelioration of teaching performance. Considering this issue, it can be contended that, in the present study, the tailor-made teacher immunity teacher education raised the teachers' consciousness of the consequential role of their own characteristics (e.g., teacher immunity) in the context of the classroom, prompted them to reflect on the factors that resulted in their emotional indifference or overreaction to the classroom conflicts, and encouraged them to deal with them in an appropriate way.

CONCLUSION AND IMPLICATIONS

The present study scrutinized the impact of tailor-made teacher immunity education and learner-difference-based education on the in-service EFL teachers' productive teacher immunity. The results evinced that: a) teacher immunity was not an impervious construct and was swayed by education; b) both of the aforementioned education types had beneficial impacts on the participants' teacher immunity; c) teachers' attitudes towards the learners affected their teacher immunity; and d) tailor-made teacher immunity education was more befitting for the improvement of the EFL teachers' productive teacher immunity in comparison with the learner-difference-based education.

This study may have a number of theoretical and practical implications in the EFL context of Iran. At the theoretical level, it can be stated that there is a need for more in-depth and thorough scrutiny of the construct of teacher immunity to itemize its sub-constructs in a more

accurate way. The results of the present study highlighted the fact that the teachers' attitudes towards their learners might constitute a sub-construct of teacher immunity. At the practical level, the current teacher education courses have to be thoroughly redressed. The overhaul process of the courses must target their content and the teacher educators. The examination of the content of these courses indicates that they disregard the teachers' education in terms of teacher factors (e.g. teacher immunity) and the learner factors. Consequently, the teacher education courses have to comprise a specific module in which the prospective teachers are apprised of the above-mentioned factors. Likewise, the examination of the teacher educators' characteristics shows that the preponderance of them is experienced teachers with international teacher education certificates who conceptualize teaching as the accumulation of efficient teaching strategies and techniques which expedite the instruction of the target language. Therefore, it can be argued that teacher educators have to be re-educated in order to fully appreciate the consequential role of the teacher and learner factors during the process of language learning and to offer the pre-service and in-service teachers with sufficient information on these factors.

The present study suffered from a number of limitations since it was not able to select the participants from various age groups and language backgrounds. Moreover, it delimited itself to the language institute settings. The future studies have to deal with these limitations and delimitations.

Considering the lack of research on the construct of teacher immunity in teacher education research, it is clear that conducting more comprehensive empirical studies constitutes a prerequisite to the understanding of the role that this construct fulfills in the context of the classroom. Teacher immunity is influenced by the language teachers' attitudes and affectivity. As a consequence, the comparison between male and female teachers' teacher immunity might be a propitious line of research due largely to the fact that male and female teachers are likely to adopt different attitudes towards the teaching profession and their own instructional efficacy. Furthermore, the examination of the impacts of tailor-

made teacher immunity education on both in-service and pre-service teacher' teacher immunity might produce promising results in the field of second language acquisition, since it may empower the program developers to revamp the current teacher education courses. In addition, second language researchers should make an endeavor to analyze the sub-constructs of teacher immunity anew in order to itemize them in a scrupulous way. The particularization of these sub-constructs might enable the teacher educators to tailor their education to meet the language teachers' needs in the context of the classroom. Finally, there is a need to replicate similar studies in diverse settings and contexts in order to be able to draw general conclusions regarding the teacher immunity construct in the field of second language acquisition.

Disclosure statement

No potential conflict of interest was reported by the authors.

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References

- Ahmadi, M., Amiryousefi, M., & Hesabi, A. (2020). Role of individual difference variables in EFL teachers' immunity development. *Journal of English language Teaching and Learning*, 12(26), 361-376.
- Akbari, R., & Eghtesadi, A. R. (2017). Burnout coping strategies among Iranian EFL teachers. *Applied Research on English Language*, 6(2), 179-192.
- Alzahrani, F. Y., & Althaqafi, A. S. (2020). EFL teachers' perceptions of the effectiveness of online professional development in higher education in Saudi Arabia. *Higher Education Studies*, 10(1), 121-131.
- Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.

- Cirocki, A., & Farrell, T. S. C. (2017). Reflective practice for professional development of TESOL practitioners. *The European Journal of Applied Linguistics and TEFL*, 6(2), 5-23.
- Cirocki, A., & Farrell, T. S. C. (2019). Professional development of secondary school EFL teachers: Voices from Indonesia. *System*, 85, 1-14.
- Collie, R. J., Granziera, H., & Martin, A. J. (2018). Teachers' perceived autonomy support and adaptability: An investigation employing the job demands-resources model as relevant to workplace exhaustion, disengagement, and commitment. *Teaching and Teacher Education*, 74, 125-136.
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. (2001). Coping with stress during childhood and adolescence: Progress, problems, and potential. *Psychological Bulletin*, 127, 87-127.
- Derakhshan, A., Coombe, Ch., Zhaleh, K., & Tabatabaeian, M. (2020). Examining the roles of continuing professional development needs and views of research in English language teachers' success. *The Electronic Journal for English as a Second Language*, 24(3), 1-27.
- Derakhshan A., V. Greenier, & J. Fathi (2022). Exploring the interplay between a loving pedagogy, creativity, and work engagement among EFL/ESL teachers: A multinational study. *Current Psychology*. doi:10.1007/s12144-022-03371-w.
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38, 181-199.
- Desimone, L. M., Smith, T. M., Hayes, S., & Frisvold, D. (2005). Beyond accountability and average math scores: Relating multiple state education policy attributes to changes in student achievement in procedural knowledge, conceptual understanding and problem solving in mathematics. *Educational Measurement: Issues and Practice*, 24(4), 5-18.
- Desimone, L. M., Smith, T., & Frisvold, D. (2007). Is NCLB increasing teacher quality for students in poverty? In A. Gamoran (Ed.), *Standards-based and the poverty gap: Lessons from No Child Left Behind* (pp. 89-119). Washington, DC: Brookings Institution Press.
- Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah: Lawrence Erlbaum.
- Dörnyei, Z., & Kubanyiova, M. (2014). *Motivating learners, motivating teachers:*

- Building vision in the language classroom*. Cambridge: Cambridge University Press.
- Farrell, T. S. C. (2015). *Promoting teacher reflection in second language education: A framework for TESOL professionals*. New York: Routledge.
- Farrell, T. S. C. (2016). TESOL, a profession that eats its young! The importance of reflective practice in language teacher education. *Iranian Journal of Language Teaching Research*, 4(3), 97-107.
- Farrell, T. S. C. (2018). *Research on reflective practice in TESOL*. New York: Routledge.
- Farrell, T. S. C. (2019). *Reflective practice in ELT*. London: Equinox.
- Farshi, S. S., & Omranzadeh, F. (2014). The effect of gender, education level, and marital status on Iranian EFL teachers' burnout level. *International Journal of Applied Linguistics and English Literature*, 3(5), 128-133.
- Ghanizadeh, A., & Ghonsooly, B. (2014). A tripartite model of EFL teacher attributions, burnout, and self-regulation: Toward the prospects of effective teaching. *Educational Research for Policy and Practice*, 13(2), 145-166.
- Ghanizadeh, A., & Jahedizadeh, S. (2015). Teacher burnout: A review of sources and ramifications. *Journal of Education, Society and Behavioural Science*, 3(2), 24-39.
- Ghanizadeh, A., & Jahedizadeh, S. (2016). EFL teachers' teaching style, creativity, and burnout: A path analysis approach. *Cogent Education*, 3(1), 115-127.
- Gholami, L. (2015). Teacher self-efficacy and teacher burnout: A study of relations. *International Letters of Social and Humanistic Sciences*, 60(2), 83-86.
- Gu, Q., & Day, C. (2007). Teachers resilience: A necessary condition for effectiveness. *Teaching and Teacher Education*, 23, 1302-1316.
- Haseli Songhori, M., Ghonsooly, B., & Afraz, Sh. (2018). Language teacher immunity among Iranian EFL teachers: A self-organization perspective. *Iranian Journal of English for Academic Purposes*, 7(1), 128-143.
- Haseli Songhori, M., Ghonsooly, B., & Afraz, Sh. (2020). Immunity among Iranian EFL Teachers: Sources, Impacts, and the Developmental Path, *Journal of Language Horizons*, 4(2). 211-238.
- Hendrawijaya, A. T., Hilmi, M. I., Hasan, F., Imsiyah, N., & Indrianti, D. T. (2020). Determinants of teacher performance with job satisfactions mediation. *International Journal of Instruction*, 13(3), 845-860.

- Hiver, P. (2015). Once burned, twice shy: The dynamic development of system immunity in teachers. In Z. Dörnyei, P. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 214-237). Bristol: Multilingual Matters.
- Hiver, P. (2016). The triumph over experience: Hope and hardiness in novice L2 teachers. In P. MacIntyre, T. Gregersen, & S. Mercer (Eds.), *Positive psychology in SLA* (pp. 168-192). Bristol: Multilingual Matters.
- Hiver, P. (2017). Tracing the signature dynamics of language teacher immunity: A retrodictive qualitative modeling study. *The Modern Language Journal*, 101(4), 669-690.
- Hiver, P. (2018). Teachstrong: The power of teacher resilience for L2 practitioners. In S. Mercer, & A. Kostoulas (Eds.), *Language teacher psychology* (pp. 231-246). Bristol: Multilingual Matters.
- Hiver, P., & Dörnyei, Z. (2017). Language teacher immunity: A double-edged sword. *Applied Linguistics*, 38(3), 405-423.
- Ingvarson, L., Meiers, M., & Beavis, A. (2005). Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes and efficacy. *Professional Development for Teachers and School Leaders*, 13(10), 1-28.
- Khani, R. & Mirzaee, A. (2014). How do self-efficacy, contextual variables and stressors affect teacher burnout in an EFL context? *Educational Psychology: An International Journal of Experimental Educational Psychology*, 35, 1-17.
- Khun-inkeeree, H., Mohd Yaakob, M. F., WanHanafi, W., Yusof, M. R., & Omar-Fauzee, M. S. (2021). Working on primary school teachers' preconceptions of organizational climate and job satisfaction. *International Journal of Instruction*, 14(3), 567-582.
- Kim, K., & Roth, G. L. (2011). Novice teachers and their acquisition of work-related information. *Current Issues in Education*, 14, 1-22.
- Liao, Y. C., Ottenbreit-Leftwich, A., Karlin, M., Glazewski, K., & Brush, T. (2017). Supporting change in teacher practice: Examining shifts of teachers' professional development preferences and needs for technology integration. *Contemporary Issues in Technology and Teacher Education*, 17(4), 522-548.
- Lindvall, J., Helenius, O., & Wiberg, M. (2018). Critical features of professional development programs: Comparing content focus and impact of two large-scale programs. *Teaching and Teacher Education*, 70, 121-131.

- Mahmoodi, M., Rashtchi, M., & Abbasian, G. R. (2021). Efficacy of in-service education and training (INSET) courses in improving EFL teachers' technological pedagogical and content knowledge (TPACK). *Journal of Modern Research in English Language Studies*, 8(1), 31-54.
- Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, 93, 498-512.
- Mercer, S., Oberdorfer, P., & Saleem, M. (2016). Helping language teachers to thrive: Using positive psychology to promote teachers' professional well-being. In D. Gabryś-Barker & D. Gałajda (Eds.), *Positive psychology perspectives on foreign language learning and teaching* (pp. 213-229). Switzerland: Springer International Publishing.
- Noughabi, M.A., Amirian, S.M.R., Adel, S.M.R., & Zareian, G. (2020). The Association of Experienced in-service EFL teachers' immunity with engagement, emotions, and autonomy, *Current Psychology*, <https://doi.org/10.1007/s12144-020-01066-8>.
- Parsons, S. A., Hutchison, A. C., Hall, L. A., Parsons, A. W., Ives, S. T., & Leggett, A. B. (2019). US teachers' perceptions of online professional development. *Teaching and Teacher Education: An International Journal of Research and Studies*, 82(1), 33-42.
- Pearce, J., & Morrison, C. (2011). Teacher identity and early career resilience: Exploring the links. *Australian Journal of Teacher Education*, 36(1), 48-59.
- Pelini, E. S. (2016). Analyzing the socio-psychological construction of identity among pre-service teachers. *Journal of Education for Teaching*, 43(1), 1-10.
- Pennington, M. C., & Richards, J. C. (2016). Teacher identity in language teaching: Integrating personal, contextual, and professional factors. *RELC Journal*, 47(1), 5-23.
- Penuel, W. R., Gallagher, L. P., & Moorthy, S. (2011). Preparing teachers to design sequences of instruction in earth systems science: A comparison of three professional development programs. *American Educational Research Journal*, 48(4), 996-1025.
- Postholm, M. B. (2012). Teachers' professional development: A theoretical review. *Educational Research*, 54(4), 405-429.
- Rahmati, T., Sadeghi, K., & Ghaderi, F. (2019). English as a foreign language teacher immunity: An integrated reflective practice. *Iranian Journal of Language Teaching Research*, 7(3), 91-107.

- Rahmati, T., Sadeghi, K., & Ghaderi, F. (2019). English as a foreign language teacher immunity: An integrated reflective practice. *Iranian Journal of Language Teaching Research*, 7(3), 91-107.
- Rezaee, A., Khoshsima, H., Zare-Bahtash, E., & Sarani, A. (2018). A mixed method study of the relationship between EFL teachers' job satisfaction and job performance in Iran. *International Journal of Instruction*, 11(4), 391-408.
- Richards, K. A. R., Hemphill, M. A., & Templin, T. J. (2018). Personal and contextual factors related to teachers' experience with stress and burnout. *Teachers and Teaching*, 24(7), 768-787.
- Richards, K. A. R., Levesque-Bristol, C., Templin, T. J., & Graber, K. C. (2016). The impact of resilience on role stressors and burnout in elementary and secondary teachers. *Social Psychology of Education*, 19(3), 511-536.
- Sadeghi, K., & Ashegh Navaie, L. (2021). Iranian EFL teachers' experiences with online professional development: Perceptions and preferences. *Iranian Journal of Language Teaching Research*, 9(3), 9-23.
- Sadeghi, K., & Khezrlou, S. (2016). The experience of burnout among English language teachers in Iran: Self and other determinants. *Teacher Development*, 20(5), 631-647.
- Sarıçoban, A. & Kırmızı, O. (2021). Language teacher immunity: insights from Turkey. *International Online Journal of Education and Teaching (IOJET)*, 8(2), 1172-1189.
- Smith, T. M., Desimone, L. M., & Ueno, K. (2005). "Highly qualified" to do what? The relationship between NCLB teacher quality mandates and the use of reform-oriented instruction in middle school math. *Educational Evaluation and Policy Analysis*, 27(1), 75-109.
- Soodmand Afshar, H., & Doosti, M. (2015). An investigation into factors contributing to Iranian secondary school English teachers' job satisfaction and dissatisfaction. *Research Papers in Education*, 31(3), 274-298.
- Soodmand Afshar, H., & Doosti, M. (2016). Investigating the impact of job satisfaction/dissatisfaction on Iranian English teachers' job performance. *Iranian Journal of Language Teaching Research*, 4(1), 97-115.
- Wanberg, C. R., and T. J. Banas. (2000). Predictors and outcomes of openness to changes in a reorganizing workplace. *Journal of Applied Psychology* 85, 132-142.
- Wang, Y., Derakhshan, A., & Azari Noughabi, M. (2022). The interplay of EFL

- teachers' immunity, work engagement, and psychological well-being: Evidence from four Asian countries. *Journal of Multilingual and Multicultural Development*. <https://doi.org/10.1080/01434632.2022.2092625>
- Yang, Y., Liu, X., & Gardella Jr., J. A. (2018). Effects of professional development on teacher pedagogical content knowledge, inquiry teaching practices, and student understanding of interdisciplinary science. *Journal of Science Teacher Education*, 29(4), 263-282.
- Yoon, S., Liu, L., & Goh, S. (2010). Convergent adaptation in small groups: Understanding professional development activities through a complex systems lens. *Journal of Technology and Teacher Education*, 18(2), 319-344.