

Research Paper

In-Field vs. Out-of-Field EFL Teachers' Self-Efficacy, Classroom Management Styles and Students' Performance

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10.22080/ISELT.2022.23589.1036

Received: May 22, 2022 Accepted: June 12, 2022 Available online: July 9, 2022

Keywords:

Classroom Management (CM), In-Field Teaching (IFT), Out-of-Field Teaching (OFT), Teachers' Self-Efficacy (TSE)

Abstract

Given that teachers' academic qualification exerts significant effects upon their cognitive- behavioral conduct, especially in the teaching context, which, in turn, has an undeniable and crucial role in their learners' performance, the present study aimed at investigating the differences between In-Field-Teaching (IFT) EFL teachers and their Out-of-Field Teaching (OFT) counterparts with regard to their Classroom Management (CM) strategies and Teachers' Self-Efficacy (TSE) beliefs and their students' achievement. To this end, 60 (30 IFT and 30 OFT) EFL teachers from three different cities in Iran were conveniently selected, and a random sample of 64 EFL learners were picked from the students of both groups of teachers. Two questionnaires, namely, CM Techniques Scale and Teacher Efficacy Scale were used to gather data on CM and TSE, respectively. Moreover, an adapted version of the first certificate in English test was used to assess students' achievement before and after the instruction. Results revealed that the IFT EFL teachers majorly used positive CM strategies compared to the OFT EFL teachers who mainly used negative CM strategies. Further comparisons, moreover, showed that the IFT EFL teachers had a significantly higher sense of self-efficacy than their counterparts. Additionally, statistical tests indicated that the IFT EFL teachers had a better performance in comparison to the OFT-EFL teachers. Implications of these findings for quality education and quality teaching are discussed in terms of providing subject-specific skills and training programs, specifically for the OFT teachers.

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1 Introduction

An ongoing discussion in the recent literature regarding teachers' certification is their subject matter knowledge (Hobbs & Törner, 2019). As Ríordáin, Paolucci, and Lyons (2019) and Porsch and Whannell, (2019) postulate, subject matter knowledge high-quality ensures teaching classroom setting. Otherwise, specialized or In-Field (IF) teachers who have gained specific knowledge and skills through formal and academic qualifications are probably more qualified than nonspecialist or Out-of-Field (OF) teachers who teach what does not match their qualification (Ingersoll, 2003). However, although education policy makers around the world have devoted many resources to ensure that schools are staffed by highly qualified teachers (Barbieri, Rossetti, & Sestito, 2011), varying degrees of OF teachers serve in many countries (Price et al., 2019), which may undermine the quality of teaching, as pointed out by Ingersoll (2003).

Whether OF teaching is a problem can be determined by examining the impact it exerts on learners and their ultimate performance. Darling-Hammond (2000) provides evidence indicating the strong relationship between teachers' certification and students' achievement. This raises the question (Hobbs & Torner, 2019) as to whether a teacher with no subject-specific knowledge may positively influence the students' interest in the subject.

Teachers' subject knowledge may also exert possible effects on their cognitive behavioral conditions, i.e., IF and OF teaching may have a differential effect on teachers' identity, self-efficacy, well-being, (Hobbs & Torner, 2019) and content knowledge. According to Abell (2007), it is

a necessary element of Pedagogical Content Knowledge (PCK). Hobbs (2013) believes OF teachers may not confidently involve in more difficult contents because of their limited subject knowledge which affects some aspects of their teaching identity (e.g. self-efficacy). This view is justified where the stress of OF teaching brings about poor self-efficacy, and in Ríordáin et al.'s (2017) terms, a lower confidence, and disillusionment (Pillay et al. 2005).

From the perspective of self-efficacy theory (Bandura, 1977; Tschannen-Moran, Hoy & Hoy, 1998), in examining the OF phenomenon, it's vital to consider individual teacher's characteristics like Teachers' Self-Efficacy (TSE), i.e., beliefs in their capabilities to have control over their own functioning. This has an important role in establishing a positive learning environment in teaching profession.

Likewise, research shows that OF teaching has a differential effect on teacher's choice of strategies. According to cognitive behavioral theory of behavior management, a possession of such effective Classroom Management (CM) is vitally important within the classroom setting (Brophy, 2010). This helps welleducated and knowledgeable teachers in their choice of strategies to establish a positive learning environment and support learners to behave in ways that help them gain the most from their schooling. It is believed that if teachers are seeking for students' academic success in schools, it is crucial to have an appropriate CM style (Rosas & West, 2009). The most beneficial outcomes of CM are the result of the teachers' capability to establish a positive learning environment. In other words, teachers' perceptions of, or spontaneous thoughts about situations that influence their identity as well as their emotional

and behavioral (and often physiological) reactions, determine the skills and techniques that they use for organizing learners' behavior and their attentive task performance during a class (Brophy,2010).

Despite the growing interest in exploring aspects of teachers' identity and their behavioral conduct in teaching contexts, little attention has been paid to the possible effect of teachers' Related Academic Degree (RAD) in the subject they teach on TSE beliefs, their CM styles and students' performance in English as a Foreign Language (EFL) context. Accordingly, the major objective of this study was to identify the differences between specialist or IF EFL teachers and OF EFL teachers with regard to TSE, CM, and their students' ultimate performance.

2 Literature Review

Teachers' pedagogical content knowledge theory (Shulman, 1986), is about the forms of teachers' knowledge and appropriate ways of applying these forms in the classroom setting. In other words, it refers to teachers' knowledge of the facts and structures of the subject they teach. Shulman, furthermore, argues teachers' content knowledge about a specific subject is more than just knowing about the facts or structures of that subject. From this perspective, according to Shulman (1986) the knowledge base for teaching is more fundamentally complex, means more than iust and understanding of the general knowledge. It involves a variety of other types of expertise, such as designing curricular materials, understanding evaluation, and CM skills.

By understanding such pedagogical content knowledge, teachers can present their knowledge in the classroom and facilitate the students' learning. Baumert, Kunter, Blum, Brunner, Voss, and Jordan (2010) contend that such teachers' pedagogical content knowledge greatly depends on the type of qualification and training programs. Accordingly, as Nixon et al. (2017a) states, teachers are required to have a grasp of the subject matter before, for example, they deal with the students' problems with content or choose the appropriate pedagogy to aid their learning.

Previous research has demonstrated that more experienced teachers draw on PCK to scaffold their restricted subject knowledge when teaching OF (Sanders et al. 1993). However, researchers (e.g., Nixon & Luft, 2015) raise concerns around less qualified teachers teaching OF given their limited PCK and experience that may affect their teaching outcome, that is, their learners' ultimate achievement. This issue has attracted the attention of researches for many years.

To determine the possible effects of teachers' RAD on students' achievement, Goldhaber and Brewer (2000) compared the students of teachers with no formal certification and training in the subject they teach to those of teachers with formal certification in the subject area. They found that the students of OF math and science non-certified teachers perform less well than those of teachers with a RAD in mathematics and science. The results showed that the phenomenon of OF could have a significant effect on the students' test scores.

OF teachers' content knowledge and their pedagogical knowledge exert influences on their classroom practices. In a qualitative, multi-perspective study, Du Plessis (2015) examined the OF teachers' experiences. Findings indicated that the OF teachers' quality of teaching was affected by the lack of PCK. Du Plessis observed that the OF teachers felt challenged and stressed when they were asked questions related to their subject knowledge. They hardly understood the application of the curriculum to be taught.

In a similar vein, Hammond (2000) collected data across 50 states in the USA and identified that teachers' RAD in the subject they teach and subject-specific preparation are the strongest factors that affect students' achievement in reading and mathematics. Several other studies have also identified that teachers' RAD in specific subjects is associated with enhanced level of students' achievement in that subject (e.g. Hoffmann & Richter 2016).

To find the possible effects of teachers' RAD on their individual characteristics such as TSE, which, in turn, affects learners' ultimate attainment, Prieto and surveyed Altmaier (1994)graduate psychology teacher assistants to gain information about their training, subject specific expertise and self-efficiency beliefs toward teaching. The researchers self-efficacy toward teaching inventory (Prieto & Altmaier, 1994) and self-report measure to assess participants' degree of confidence in their specific teaching behaviors. It was shown that the teacher assistants who received qualifications and formal training in psychology had a greater sense of selfefficacy than participants with no training courses.

In the realm of CM, it is also important to focus on the importance of teachers' specific academic degree in the subject. Soheili, Alizadeh, Murphy, Bajestani, and Ferguson (2015), probed the effect of specialized knowledge on teachers' CM

strategies and students' achievement. They examined both students' perception of CM concept and their final grades. Their analyses of 745 students' perception of classroom environment and relationship with teacher revealed that the qualified training programs had positive effects on teachers' behavior in classroom which can also satisfy the students with the classroom environment, enhance teacher-student interactions, and improve the students' academic performance.

A thorough and in-depth assessment of the relevant literature indicates that few researchers have explored the teachers' characteristics more particularly from an OF perspective in relation to their students' ultimate achievement over the vears (Abu-Tineh, Khasawneh, & Khalaileh, 2011). This study, hence, was determined to identify the differences between IF-EFL teachers and OF-EFL teachers with regard to TSE, CM, and students' performance. Accordingly, the following research questions guided the current investigation:

- 1) Is there any significant difference between the OF EFL teachers and the IF EFL teachers with regard to their CM techniques?
- 2) Is there any significant difference between the OF EFL and the IF EFL teachers with regard to their TSE beliefs?
- 3) Is there any significant difference between the performances of the IF EFL teachers' students vs. the OF EFL teachers' students?

3 Methods

A. Participants

Teacher-participants (N=60) included 41 males and 19 females with the age range between 26 and 30. Based on their field of study, they were assigned to two groups of IF EFL and OF EFL teachers (with 30 members in each group). They reported teaching to EFL learners of different levels of English language proficiency. The first group (i.e., IF EFL teachers) held MA degree in TEFL; the second group (i.e., OF EFL teachers), on the other hand, held MA degrees in fields other than English language teaching. The teacherparticipants had 2-4 years of teaching experience and none of them in either group participated in any teacher training courses.

In addition to the teacher-participants, there were also 64 student-participants, including 43 males and 21 females. Student-participants, aged between 14-17 years, were selected from the students of a random sample of teacher-participants (n =16). Table 1 presents a summary of the participants' profile.

	Gender				
	Male	Female	Total		
IF-EFL teachers	19	11	30		
OF-EFL teachers	22	8	30		
Total	41	19	60		
IF- students	21	11	32		
OF- students	19	13	32		
Total	43	21	64		

Table 1 Participants' profile

techniques (Lewis, The CM questionnaire was used to measure the teachers' application of CM techniques in the teaching contexts. It encompassed 24 items that assessed five CM techniques, punishment, including involvement, recognition and reward, aggression, and discussion. The 16-item version of the Teacher Efficacy Scale (TES) questionnaire (Gibson & Dembo, 1984) was also used to measure teacher-participants' level of self-efficacy. The alpha measures obtained as the index of internal consistency of the questionnaires were .98 and respectively.

The students' performance in English language was tested, before and after the instruction, by the cloze tests adapted

from the first certificate in English test, namely, Use of English Paper, that functions as an integrative measure of language proficiency. The Use of English Paper with 24 items included some cloze (open and multiple-choice) passages which assess different elements of language. The first part of the paper, which consisted of 12 items, encompassed reading a cloze passage and choosing the best option from among the given options for each gap. The second part included a passage with 12 gaps in which the participants were asked to read the passage and think of the word which best fits each gap.

4 Results and Analysis

This investigation explored the differences between two groups of teachers namely, the IF EFL and the OF EFL teachers regarding their CM techniques, TSE beliefs and students' performance. The first question sought any significant difference between the two groups with regard to their CM techniques. The descriptive statistics associated with teachers' CM techniques are reported in Table 2.

Table 2 Descriptive statistics: IF and OF teachers' CM techniques

CM styles	Teachers	M	SD
Involvement	IF	32.76	5.56
	OF	23.03	4.62
Punishment	IF	11.06	2.94
	OF	13.93	3.87
Reward	IF	15.73	3.01
	OF	12.03	2.59
Aggression	IF	6.31	2.44
	OF	10.03	2.31
Discussion	IF	7.23	2.41
	OF	8.66	2.55
Total	IF	73.16	69.10
	OF	67.70	6.34

N=30

As displayed in Table 2, the IF teachers had the higher mean in involvement and reward. The OF teachers, however, had higher mean at punishment, aggression, and discussion. Further MANOVA

statistics (Table 3) with all the satisfactory underlying assumptions was used to check whether these differences were significant.

Table 3 MANOVA test for IF vs. OF teachers' CM techniques

Effect		Value	F	Df	Error df	Sig.	Partial Eta Squared
	Pillai's Trace	.989	939.866b	5.000	54.000	.000	.989
Todayana	Wilks' Lambda	.011	939.866b	5.000	54.000	.000	.989
Intercept	Hotelling's Trace	87.025	939.866b	5.000	54.000	.000	.989
	Roy's Largest Root	87.025	939.866b	5.000	54.000	.000	.989
	Pillai's Trace	.534	12.391b	5.000	54.000	.000	.534
CM	Wilks' Lambda	.466	12.391b	5.000	54.000	.000	.534
CM	Hotelling's Trace	1.147	12.391b	5.000	54.000	.000	.534
	Roy's Largest Root	1.147	12.391b	5.000	54.000	.000	.534

The obtained MANOVA results with Lambda value of .466, (p< .05) indicate a statistically significant difference between the IF and OF teachers in terms of their CM styles. We further checked whether

they differ on all of the dependent measures, or just some. To this end, between-subjects effects test (Table 4) was used.

	Dependent	Type III Sum of		Mean		
Source	Variable	Squares	Df	Square	F	Sig.
	Involvement	522.150	1 522.150		14.754	.000
	Punishment	132.017	1	132.017	11.084	.002
Corrected	Reward	81.667	1	81.667	7.916	.007
Model	Aggression	201.667	1	201.667	35.668	.000
	Discussion	30.817	1	30.817	4.992	.029
	Involvement	52392.150	1	52392.150	1480.365	.000
	Punishment	9450.150	1	9450.150	793.402	.000
Intercept	Reward	11760.000	1	11760.000	1139.967	.000
	Aggression	4034.400	1	4034.400	713.545	.000

3792.150

1

Table 4 Between-subjects effects test: IF vs. OF teachers' CM

Between-subjects effects test indicates that the two groups do differ in all aspects of CM. To be more specific, in terms of involvement and reward, the IF group scored higher (with M=32.76, SD= 5.56 for involvement and M= 15.73, SD=3.01 for reward) than the OF teachers (with M=23.03, SD=4.62 for involvement and M= 12.03, SD=2.59 for reward). However, the results are vice versa for punishment, aggression and discussion, that is, the OF teachers (with M= 13.93, SD= 3.87 for punishment, M= 10.03, SD= 2.31 for

Discussion

aggression and M= 8.66, SD=2.55 for discussion) scored higher than the IF teachers (with M= 11.06, SD= 2.94 for punishment, M= 6.34, SD= 2.44 for aggression and M= 7.23, SD=2.41 for discussion).

3792.150

614.313 .000

Descriptive statistics associated with the second question that probed possible differences between groups with regard to their TSE beliefs are summarized in Table 5.

Table 5 Descriptive statistics: IF and OF teachers' TSE beliefs

	Teachers	M	SD	N
TSE	IF	68.23	13.84	30
	OF	50.13	6.86	30

The IF teachers, as displayed in Table 5, had higher mean in TSE beliefs compared to the OF teachers. Further independent

samples t-test (Table 6) approved this difference (t=6.41; p<0.05).

Table 6 Independent samples t-test: IF vs. OF teachers' TSE beliefs

		Levene's Test for Equality of Variances	t-test for Equality of Means				
		F	Sig	Т	Df	Sig.(2- tailed)	Mean Difference
TSE	Equal Variances assumed	8.841	.004	6.416	58	.000	18.10000
	Equal Variances not assumed			6.416	42.461	.000	18.10000

The last question probed the differences between the performance of the IF teachers' students vs. the OF teachers' students. Table 7 represents descriptive statistics associated with the students' performance across the two main groups, that is, the IF teachers vs. the OF teachers.

Table 7 Descriptive statistics for IF and OF teachers' students' performances before and after instruction

Students Performance		Mean	SD	N
Pre test	re test IFT		2.88	32
OFT		10.59	3.26	32
Post test	IFT	14.56	4.08	32
	OFT	13.46	4.77	32

The IF teachers' students performed better than those of the OF teachers' at the end of the instruction. ANCOVA test (Table 8), with students' pre-test performance scores as the covariate, indicated that

there is a significant difference between the two groups of teachers with regard to their students' performance (F =10.47, p=.00, partial eta squared=.147).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	776.621a	2	388.311	50.574	.000	.624
Intercept	84.880	1	84.880	11.055	.002	.153
Pre test	757.481	1	757.481	98.655	.000	.618
Students_ Performance 1	80.406	1	80.406	10.472	.002	.147
Error	468.363	61	7.678			
Total	13817.000	64				
Corrected Total	1244.984	63				

Table 8 One-way ANCOVA test for IF and OF teachers' students' performances

5 Discussion

The main purpose of the current study was, first, to find out the possible differences between the OF and IF teachers with regard to their use of the CM strategies of 'involvement', 'punishment', 'reward', 'aggression', and 'discussion'. For this purpose, the researcher applied MANOVA test. The results revealed that the two groups differed in the use of the strategies 'involvement'. of 'punishment', 'reward', 'aggression', and 'discussion'. However, more detailed results from descriptive statistics revealed that specialist teachers used more positive CM strategies such as 'involvement' and 'reward' to manage their classroom. On the other hand, non-specialist teachers applied mainly negative CM strategies, such as 'punishment', 'aggression', and 'discussion' to do so. In other words, EFL teachers with a related academic degree in English language used more holistic CM techniques, which according to Horner, Sugai, and Anderson (2010), use more positive techniques when good students' behaviors occur and more supportive techniques when disruptive behaviors occur. In contrast, EFL teachers with no related academic degree and training in English language teaching use more

traditional CM techniques which, according to Ross and Horner (2007), get more punitive when disruptive behaviors occur. This finding implies that certified teachers with a related academic degree in the subject that they teach, use mainly positive and effective CM strategies, which according to Allen (2010), Reupert and Stuart Woodcock (2014) can lead to a positive relationship with students and, in turn, positive learning environment. The result in this part is consistent with the findings of Darling-Hammond (2001), who argued that teachers' academic degree in their subject area ensure that they have professional knowledge about pedagogical techniques. This finding is also in line with Saleh and Darmawan's (2013) research that indicated the IF teachers use higher levels of positive interaction to deal with disruptive behaviors. One explanation for this finding is that teachers with related academic degree in English language teaching have participated in lots of practice-based professional courses on theoretical and practical teaching which mostly encompass effective management skills.

Our second aim was to find out the differences between the IF and OF teachers' TSE beliefs. T-test analysis was

used to examine the differences between both groups of teachers. The results showed that the two groups differed significantly in their TSE beliefs; the IF teachers had significantly higher TSE beliefs. This outcome may suggest that the EFL teachers who have a related academic degree in English language teaching have a high sense of self-efficacy than those who do not have a related academic degree in English language teaching. The findings accord with the studies (e.g., Denham & Michael, 1981) depicting that teachers with training in the fields that they teach and a related academic degree in their teaching fields have a higher self-efficacy and degree of confidence in their abilities, compared to the teachers with no such qualifications in their specialty areas. As the OF teachers have no professional training courses on English language teaching (Michel, 1981), they may possess lower sense of self efficacy beliefs. This view is justified by Pillay et al. (2005), and Schueler et al (2016) who maintain that the stress of OF teaching may end in teacher's self-efficacy stress, poor disillusionment. Thus, the reality is that the OF teachers might feel the additional tension associated with learning to teach a new subject (Bosse & Törner, 2013).

We finally attempted to find out the between the differences students' achievement of two main groups of teachers. The results of a set of ANCOVA tests revealed that the IF teachers' students' achievement were significantly better than those of the OF teachers. This corroborates with Goldhaber and Brewer (2000), as well as Dee and Cohodes (2008) who reported that the EFL teachers' related academic degree in the subject that they teach can have a significantly positive impact on the students' achievement in comparison to

teachers with no certification in their subject area. Accordingly, the outcomes may reflect that the subject-qualified EFL teachers have developed their content knowledge about English language teaching. This reflects Shulman's (1986) contention that teachers with specific content knowledge possess the knowledge of the facts and structures of the subject that they teach and can also present their knowledge in the classroom and facilitate their students' learning. In sum, the findings proposed in this research may imply that the EFL teachers with subjectspecific training in English language teaching and the phenomenon of OFT can affect the TSE beliefs, the teachers' use of CM strategies, and their students' achievement.

6 Conclusion

The findings of this study made it clear that teaching English would be more effective when qualified teachers are involved in teaching. This can be an implication of the fact that qualified EFL teachers' awareness about positive CM strategies can enhance their students' achievement and lead to a positive student-teacher relationship in classroom. The findings call for situated professional practice-based development programs for the teachers. Such focused programs can affect the student-teacher interrelationship and the quality of education which, in turn, may also affect students' performance. Teacher trainers, English language institutes that support students' successes and seek positive learning environment, should, therefore, offer OFT EFL teachers some training programs or courses that focus on the special needs of teachers, including CM strategy-training. The teachers can,

thus, extend the CM strategies that they learnt from the suggested training daily teaching. programs to their Moreover, the findings of this study also suggest that teachers' certification and academic degree can affect their TSE beliefs. One way of strengthening the sense of self-efficacy beliefs is through experiences. vicarious One experience can be observing the social models that can enhance the observers' sense of self-efficacy beliefs. As in the context of the present study, nonspecialist teachers can enhance their selfefficacy beliefs by observing the teaching of other successful teachers. Therefore, this can be an implication of the necessary opportunities that the English language institutes are to provide for the OF teachers to participate and observe the teaching of other successful teachers. Another way of helping the OFT EFL teachers to develop their sense of selfefficacy beliefs is that they can be given supportive feedbacks. Those in charge of running English language institutes, hence, are suggested to emphasize more on frequent observations of the OFT EFL teachers' teaching and providing them with supportive feedback.

The researcher took every precaution to make this study faultless; however, the present study suffered from some unintentional limitations, which may provide insights for further studies. One of the limitation of this study is related to the main data collection tools. Due to the practical reasons, the researcher used two questionnaires to collect data about teachers' CM styles and TSE beliefs. The response format of the TSE questionnaire was Likert-type which ranged from strongly agree to strongly disagree. According to Revilla, Saris, and Krosnick

(2014), agree-disagree rating scales have a few shortages such as the possibility of biased responses, enhancing cognitive burden, and yielding to low-quality data. Another major concern of the researcher that has to be mentioned is related to the use of the adapted version of the first certificate in English test for collecting data about the students' achievement. Due to practicality issues, the researcher decided to only use one section of the first certificate in English test and omit other sections. Furthermore, observing a few sessions of both groups of teachers was another limitation of this study which may prevent generalizing the results of the classroom observation. To overcome the limitations of this study and expand the provided knowledge through investigation, the following suggestions for conducting further studies recommended. It is recommended that further investigations use other types of data collection tools such as interviews, study both teachers as well as students, and do more classroom observation which can lead to a richer description of the features of the variables involved in the present study. In addition, to make the findings of the study more generalizable, it is recommended that for further and clearer implications, researchers make use of a large number of participants in the future. Researchers are recommended to carry out such studies in the different contexts such as schools to see whether the same or different results are obtained. Conducting similar studies in different contexts can make generalizing the findings of the study more plausible. treatment-based Finally, further experimental studies that use more elaborate achievement tests and provide more thorough results about students' achievement are suggested.

References

- Abell, S. K. (2007). Research on science teacher knowledge. In S. K. Abell & N. G. Lederman (Eds.), Handbook of research on science education (pp. 1105–1149). Mahwah, NJ: Lawrence Erlbaum Associates.
- Abu-Tineh, A. M., Khasawneh, S. A., & Khalaileh, H. A. (2011). Teacher selfefficacy and classroom management styles in Jordanian schools. *Management in Education*, 25(4), 175-181. Allen, K. (2010). Classroom management, bullying, and teacher practices. Professional Educator, 34(1), 1-15.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.
- Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W. H. Freeman and Company.
- Barbieri, G., Rossetti, C., & Sestito, P. (2011).

 The determinants of teacher mobility: Evidence using Italian teachers' transfer applications.

 Economics of Education Review, 30(6), 1430-1444.
- Baumert, J., Kunter, M., Blum, W., Brunner, M., Voss, T., Jordan, A., ... & Tsai, Y. M. (2010). Teachers' mathematical knowledge, cognitive activation in the classroom, and student progress. American educational research journal, 47(1), 133-180.
- Bosse, M., & Törner, G. (2012). Out-of-field teaching math teachers and the ambivalent role of beliefs-report from interviews with these teachers. In *Unpublished paper*

- presented at the 18th MAVI Mathematical Views conference Helsinki (pp. 1-11).
- Brophy, J. (2010). Stress and strain in teaching: A structural equation approach. British Journal of Educational Psychology, 71, 243–259.
- Darling-Hammond, L., Berry, B., & Thoreson, A. (2001). Does teacher certification matter? Evaluating the evidence. Educational evaluation and policy analysis, 23(1), 57-77.
- Dee, T. S., & Cohodes, S. R. (2008). Out-offield teachers and student achievement: Evidence from matched-pairs comparisons. *Public Finance Review*, 36(1), 7-32.
- Denham, C. H., & Michael, J. J. (1981).

 Teacher sense of efficacy: A definition of the construct and a model for further research.

 Educational Research Quarterly, 5, 39–61.
- du Plessis, A. E., Gillies, R. M., & Carroll, A. (2014). Out-of-field teaching and professional development: A transnational investigation across Australia and South Africa. International journal of educational research, 66, 90-102.
- du Plessis, A. E. (2015). Effective education:
 Conceptualising the meaning of
 out-of-field teaching practices for
 teachers, teacher quality and
 school leaders. International
 Journal of Educational Research, 72,
 89-102.

- Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76, 569–592.
- Goldhaber, D., & Brewer, D. J. (2000). Does teacher certification matter? High school certification status and student achievement. Educational Evaluation and Policy Analysis, 22, 129–146.
- Goldhaber, D., & Anthony, E. (2007). Can teacher quality be effectively assessed? National board certification as a signal of effective teaching. The Review of Economics and Statistics, 89(1), 134-150.
- Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. Education Policy Analysis Archives, 8(1), 1–9.
- Darling-Hammond, L., Berry, B., & Thoreson, A. (2001). Does teacher certification matter? Evaluating the evidence. Educational evaluation and policy analysis, 23(1), 57-77.
- Hobbs, L. (2012). Teaching out-of-field: Factors shaping identities of secondary science and mathematics. Teaching Science, 58(1), 21-29.
- Hobbs, L. (2013). Teaching 'out-of-field' as a boundary crossing event: Factors shaping teacher identity. International Journal of Science and Mathematics Education, 11(2), 271–297.
- Hobbs, L., & Törner, G. (2019). Teaching out-of-field as a phenomenon and research problem. In Examining the Phenomenon of "Teaching Out-offield" (pp. 3-20). Springer, Singapore.

- Hoffmann, L., & Richter, D. (2015). Aspekte der Aus-und Fortbildung von deutsch-und Englischlehrkräften im Ländervergleich. IQB-Bildungstrend, 481-507.
- Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the evidence base for school-wide positive behavior support. Focus on exceptional children, 42(8).
- Ingersoll, R.M. (2003). Out-of-field teaching and the limits of teacher policy Research report (R-03-5), Center for the Study of Teaching and Policy, University of Washington, Seattle, WA (2003).
- Ingersoll, R. M. (2019). Measuring out-of-field teaching. In Examining the Phenomenon of "Teaching Out-offield" (pp. 21-51). Springer, Singapore.
- Lewis, R. (2001). Classroom discipline and student responsibility: The students' view.

 Teaching and Teacher Education, 17(3), 307–319.
- Magableh, A., & Hawamdeh, B. (2007).

 Accountability and discipline in classroom

 management: Case study: Jarash—

 Jordan. College Student Journal,
 41(4), 901–
 908.
- Nixon, R. S., & Luft, J. A. (2015). Teaching chemistry with a biology degree. In Newly Hired Teachers of Science (pp. 75-85). SensePublishers, Rotterdam.
- Nixon, R. S., Hill, K. M., & Luft, J. A. (2017a). Secondary science teachers'

- subject matter knowledge development across the first 5 years. *Journal of Science Teacher Education*, 28(7), 574–589.
- Porsch, R., & Whannell, R. (2019). Out-of-field teaching affecting students and learning: What is known and unknown. In Examining the Phenomenon of "Teaching Out-offield" (pp. 179-191). Springer, Singapore.
- Pillay, H., Goddard, R., & Wilss, L. (2005). Well-being, burnout and competence: Implications for teachers. Australian Journal of Teacher Education, 30(2), 22–33.
- Price, A., Vale, C., Porsch, R., Rahayu, E., Faulkner, F., Ríordáin, M. N., ... & Luft, J. A. (2019). Teaching out-of-field internationally. In Examining the Phenomenon of "Teaching Out-of-field" (pp. 53-83). Springer, Singapore.
- Prieto, L. R., & Altmaier, E. M. (1994). The relationship of prior training and previous teaching experience to self-efficacy among graduate teaching assistants. Research in higher education, 35(4), 481-497.
- Reupert, A., & Woodcock, S. (2015). Does a year make a difference? The classroom management practices of primary student teachers before and after a one-year teacher education programme. Emotional and Behavioural Difficulties, 20(3), 265-276.
- Revilla, M. A., Saris, W. E., & Krosnick, J. A. (2014). Choosing the number of categories in agree-disagree scales. Sociological Methods & Research, 43(1), 73-97.

- Ríordáin, M. N., Paolucci, C., & O'Dwyer, L. M. (2017). An examination of the professional development needs of out-of-field mathematics teachers. Teaching and Teacher Education, 64, 162-174.
- Ní Ríordáin, M., Paolucci, C., & Lyons, T. (2019). Teacher professional competence: What can be learned about the knowledge and practices needed for teaching?. In Examining the phenomenon of "Teaching outof-field" (pp. 129-149). Springer, Singapore.
- Rosas, C., & West, M. (2009). Teachers beliefs about classroom management: Pre service and in service teachers' beliefs about classroom management.

 International Journal of Applied Educational Studies, 5(1), 54-61.
- Ross, S. W., & Horner, R. H. (2007). Teacher Outcomes of School-Wide Positive Behavior Support. Teaching Exceptional Children Plus, 3(6), n6.
- Sanders, L. R., Borko, H., & Lockard, J. D. (1993). Secondary science teachers' knowledge base when teaching science courses in and out of their area of certification. Journal of Research in Science Teaching, 30(7), 723-736.
- Salleh, U. K. M., & Darmawan, I. G. N. (2013). Differences between in-field and out-of-field history teachers influence on students learning experience in Malaysian secondary schools. Creative Education, 4(09), 5.
- Schueler, S., Roesken-Winter, B., Weißenrieder, J., Lambert, A., & Römer, M. (2015, February).

 Characteristics of out-of-field

teaching: Teacher beliefs and competencies. In CERME 9-Ninth Congress of the European Society for Research in Mathematics Education (pp. 3254-3261).

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15, 4–14.

Soheili, F., Alizadeh, H., Murphy, J. M., Bajestani, H. S., & Ferguson, E. D. (2015). Teachers as leaders: The impact of Adler-Dreikurs classroom management techniques on students' perceptions of the classroom environment and on academic achievement. The Journal of Individual Psychology, 71(4), 440-461.

Tschannen-Moran, M., Woolfolk-Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. Review of Educational Research, 68(2), 202-248.