



Language Teaching Research Quarterly

2025, Vol. 47, 73–92



Collaborative Inquiry in EFL Teachers’ Professional Development and its Perceived Benefits and Challenges

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Received 08 December 2024

Accepted 19 March 2025

Abstract

Professional development is thought to be most effective when teachers participate and collaborate in groups. The present study was to find the collaborative inquiry role in EFL teachers’ professional development and their perceptions of collaborative inquiry benefits and challenges. In so doing, 185 Iranian EFL teachers were selected by convenience random sampling. The data were collected by Collaborative Inquiry Survey, Professional Development Questionnaire of Teachers, and collaborative inquiry interview and analyzed by multiple regression and constant comparative method. The findings indicated that collaborative inquiry affected teachers’ professional development regarding learning environment, cooperation, and educational planning. Furthermore, nine themes emerged from the analysis of the collaborative inquiry benefits and challenges interviews, namely awareness of colleagues’ interests and educational issues, collegial atmosphere for learning, new understandings and developing interactive activities, feeling confident about pedagogical competence, risk of losing face, unpredictable results, tight schedules, lack of discussion culture, and disinterest in changing (inflexibility). The findings highlighted the encouragement of teachers to be involved in collaborative learning, which has implications for policymakers and school staff.

Keywords: *Collaborative Inquiry, Professional Development, EFL Teachers*

How to cite this article (APA 7th Edition):

Dehghani, E., Rezvani, E., & Hadian, B. (2025). Collaborative inquiry in EFL teachers’ professional development and its perceived benefits and challenges. *Language Teaching Research Quarterly*, 47, 73-92. <https://doi.org/10.32038/ltrq.2025.47.05>

Introduction

Since the millennium turn, attention to the professional development of teachers has increased worldwide as it is recognized that teachers are the key actors in education reform (Cheng & Pan, 2019; Ping et al., 2021). There has been an increased demand for highly qualified teachers and effectual professional development programs (Darling-Hammond, 2017) to improve

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<https://doi.org/10.32038/ltrq.2025.47.05>

student learning outcomes appropriate for the modern world (Powell & Bodur, 2019). Teacher educators and teachers embraced this chance and participated in widespread capacity-development programs to encourage the professionalization of teaching.

Professional development is thought to be most effectual once teachers participate and collaborate in groups (Cordingley et al., 2015; Ramos et al., 2022). Most commonly, the need for collaboration is expressed as the requirement to cooperate with many colleagues or a community of practice. This collaboration offers them the opportunity to reflectively and critically evaluate their teaching process together with others.

Regarding the benefits of collaboration, reviewing some related publications reveals that collaboration between teachers can indeed enhance the learning of both students and teachers (Williams, 2010). When teachers have the opportunity for professional collaboration, they draw on their specific experiences, content, and pedagogy (Bergmark, 2023). Strickland (2023) assumed that teamwork resulted in a greater diversity of teachers' skills and knowledge about student performance, which, in turn, improved students' performance. Meyer et al. (2022) concluded that teacher collaboration in primary schools brought positive effects. The study found a direct link between teachers' collaboration and the promotion of achievement in terms of school and students.

Professional development models engage teachers in research to encourage change in teacher practice and development (Ball, 2009; MacPhail et al., 2025). Teachers participating in a collaborative learning group can engage in career planning and dialogue to develop their understanding of problem-solving approaches in the classroom. Through these active dialogues, teachers can express and clarify their understanding during planning (Cooper et al., 2022). Addressing emerging challenges strengthens the student community and improves teachers' ability to observe, record, analyze, represent, and respond to what is happening in their classrooms as teaching and learning, ultimately transforming the culture of their learning communities (Burden, 2020).

Literature Review

Professional Development

Teacher professional development is defined as “activities that develop a teacher’s skills, knowledge, competence and other individual characteristics” (OECD, 2009, p. 52). It also implies qualitative development that improves teachers’ pedagogical knowledge and practices and improves students’ learning (Darling-Hammond et al., 2017). Guskey (2002) also defined CPD as systematic efforts to bring about change in classroom practices, teacher attitudes and beliefs, and student learning outcomes.

The undeniable role of professional development in maintaining and improving teachers’ qualifications and competencies has been recognized in research and practice, considering the constant changes in teachers’ knowledge base in the modern world. Numerous studies demonstrated that high-quality professional development increased teachers’ expertise and improved their teaching practices, positively affecting student accomplishment (Polly et al., 2015; Pehmer et al., 2015). Therefore, teacher training and professional development facilitators need to appreciate the methods, procedures, and conditions of knowledge building for target teachers to design professional development approaches that can promote effective teacher development.

Soodmand Afshar and Donyaie (2024) investigated the effects of collective and individual reflective journal writing on the professional development of Iranian EFL teachers. Results indicated that reflective journal writing in a collaborative manner helped teachers control their emotions and reactions toward classroom happenings, enhanced their awareness of the teaching profession, led to professional development, and enhanced teacher-student rapport.

Nalbantoğlu and Bümen (2024) investigated how professional development supports facilitated Turkish teachers' adaptation of a curriculum. The results revealed that professional development promoted teachers' productive adaptation in all aspects and their adaptation-related decisions became more reflective and deliberative.

Collaborative Inquiry

Collaborative inquiry is conceptualized primarily from a social-constructivist perspective where shared and individual experiences form contextualized meaning (e.g., Butler & Schnellert, 2012). The Collaborative Inquiry Framework emphasizes dialogue as a key component of collaborative knowledge creation and query response. Nelson (2008) state that collaborative inquiry is a stance of attitude of knowledge negotiation between group members. Engage in dialogue based on shared experiences and shared goals. Furthermore, Horn and Little (2009) studied two practice-oriented professional learning groups and found that differences in group generativity result from “each group’s collective orientation and its contextual resources and constraints” (p. 211).

Green et al. (2024) investigated the way collaborative inquiry transformed the teaching practice of university teachers. The findings indicated that collaboration resulted in creating a shared interest in the investigation, a joint problem definition, a collaborative search for solutions, mutual creation of results, and joint development of knowledge and grasping how theory and practice are related to the existing problems. Overall, research has demonstrated that effective professional learning is the outcome of collaboration with others (Harvey & Teledahl, 2022).

Reviewing collaborative inquiry studies, DeLuca et al. (2015) reported the challenges and empirically confirmed the collaborative inquiry benefits as a model for professional learning. For instance, collaborative inquiry is ineffective unless teachers cultivate a collaborative culture through sharing, pedagogical integration, reflection, and collaborative analysis. Supporting factors were collaborative school culture, etc.

When difficulties are alleviated by support, the first proof of the benefits of collaborative inquiry for teachers and schools appears, including (a) the development of teaching content knowledge and skills to improve student teaching and learning, (b) learning community development, and (c) leadership opportunities for teachers (Brown et al., 2021). Effects of collaborative inquiry on schools are (a) improved curriculum alignment within and between grades, (b) the presentation of new notions that can be included in learning enhancement objectives, (c) professional development that matches the needs of the teachers, (d) a shift towards collaborative school cultures that can facilitate student achievement inquiry, and (e) access to universities as sources of information and knowledge (Forey et al., 2012). Coulter and Richardson (2025) studied the collaborative inquiry of teachers of multilingual students and reported that collaborative inquiry enhanced teachers' agency and functioned as a theory-practice bridge for this group of teachers.

Collaboration and Professional Development

Encouraging teachers to work together is one of the hallmarks of effective professional development. This is related to active learning, such as problem-solving through teacher collaboration (Zepeda, 2019). Desimone (2009) denoted the positive effects of professional development that encourage collaboration between teachers in the same school. Swafford et al. (1999) examined the effect of a three-year in-service training program on the pedagogical practice of fourth through eighth-grade mathematics teachers. Qualitative and quantitative data showed that designing this professional development program encouraged teachers to collaborate and reflect, improved their teaching practice, and increased confidence and autonomy. Teacher collaboration is about creating a sense of community, one of the principles of influential professional development (Brodie, 2021).

Kolesnyk and Biseth (2024) investigated the professional development of Ukrainian teachers through international collaboration. The findings demonstrated that collaboration assisted teachers in participating in international and domestic discussion groups with colleagues, and the input they received from international teachers enhanced their professional development, resulting in fruitful educational change. Furthermore, the participants became more open to changes in the education system.

Collaborative inquiry is the prevailing framework for teachers' engagement in professional learning (Ramos et al., 2022; Comber, 2013). It is a sequential collaborative process of learning in which teachers examine their professional acts, including classroom information, student answers to the classroom, previous studies, learning goals, and experiences shared among teachers (Webster-Wright, 2009). The value of educators who engage in professional development interactively with their peers as part of their job (Kong & Wang, 2024), and especially the idea that community is the powerful enabler of improving classroom practice and student success (McIntosh & Nutt, 2022), are important and largely accepted.

Incorporating these issues into focused and organized professional learning encourages reflection in teachers, instigating new understanding and responsive action in the classroom (Lee, 2009). Finally, collaborative inquiry views teachers as learners in their own learning contexts to reshape concepts of teacher professional learning and promote better classroom outcomes (Olin et al., 2020).

Scant studies, if any, examined the collaborative inquiry role in EFL teachers' professional development and their perceptions of collaborative inquiry benefits and challenges using a mixed methods approach. Generally, the present study was to respond to the questions below.
RQ1: Does collaborative inquiry influence Iranian EFL teachers' professional development?
RQ2: What are the views of Iranian EFL teachers on the perceived benefits and challenges of collaborative inquiry?

Method

Participants

The participants in this study included 185 Iranian EFL teachers from various language institutes located in Isfahan, Iran. These teachers were selected through convenience random sampling, which allowed for a diverse representation of individuals currently active in the field of EFL instruction. The age of the participants ranged from 27 to 43 years, reflecting a relatively young and dynamic demographic, with the majority (n=96) possessing over three

years of teaching experience. This level of experience is significant in the context of the Iranian education system, where EFL teachers often navigate a unique set of challenges influenced by national educational policies. In Iran, English language instruction is a critical component of the educational curriculum, driven by the government's emphasis on improving English proficiency among its citizens in response to globalization and increasing international interactions. Despite this focus, many teachers face limitations due to the prevailing educational policies that often emphasize traditional teaching methods and standardized curricula. All participants in this study were native Persian speakers, indicating a homogeneity in linguistic background that may influence their teaching practices and methodologies. Notably, none of the teachers had prior experience teaching in English-speaking countries, which suggests that their instructional approaches were shaped primarily by domestic educational practices and the local context.

Instruments

Collaborative inquiry survey (DeLuca et al., 2017)

This survey is a 14-item measure used to find the effect of collaborative inquiry on teaching. It includes topics such as personalization, differentiated instruction, giving feedback, and precision. The items are marked on a five-point Likert scale (1=never to 5=always), with higher scores indicating higher collaborative inquiry". The survey content validity was evaluated by three TEFL experts, and "its reliability coefficient estimated by Cronbach's alpha was .87.

Professional development questionnaire of teachers (Ayyoobi et al., 2016)

It is a 47-item questionnaire aimed at finding the professional development of teachers and includes eight sub-scales, namely thematic knowledge (items 1-9), learning environment (items 10-15), cooperation (items 16-20), educational technology (items 21-26), research base (items 27-32), educational planning (items 33-37), evaluation (items 38-42), and development of human resources (items 43-47). The items are ranked on a five-point Likert scale ranging from 1 (very small) to 5 (very much), with higher scores representing higher professional development. The Cronbach's alpha reliability coefficients of its sub-scales ranged between .8 and .91 in the present study, and those reported in the original study were above .84.

Collaborative inquiry interview

Five questions were designed to inquire about the participants' views of the benefits and challenges of collaborative inquiry. The questions were modified and adapted from Cantalini-Williams et al. (2015) and included issues such as collaborative inquiry role in enhancing teachers' awareness of interest in their profession, creating a community of professional EFL educators, contributing to increased competencies and changes in pedagogical practices, its challenges and the factors that discourage Iranian EFL teachers collaborating with their colleagues. The interview questions' validity was evaluated by four expert EFL educators to ascertain the suitability of the questions in relation to the objectives of the research.

Procedure

Regarding the quantitative data of the present study, i.e., questionnaire and survey instruments, the data collection took one month, and the instruments were distributed manually among EFL

teachers. They were asked to complete them at their earliest convenience. Besides, the phone numbers of the authors were provided to the participants so they could contact them if needed. It should be noted that all the participants signed the consent form, and the aims and objectives of the study were explained to them both orally and in written form.

All the interviewees were initially ensured security and confidentiality, and only the researchers and reviewers could analyze the data. Participants' names were eliminated and replaced by letters and numbers to ensure anonymity (the "T" letter stands for teachers, and numbers indicate which teacher's response, from among the six teachers, is cited). A debriefing session was held so participants could ask questions and be informed that no personal information had been disclosed. Furthermore, they were notified of their right to leave the study at any time. The face-to-face interview was run rather than an online or phone interview since it could reveal strong emotional responses, immediate reactions, facial expressions, and body language to the researcher (Merriam, 2016). In general, data saturation was obtained after interviewing six randomly selected teachers from 185 EFL teachers who completed questionnaires and surveys. In so doing, the teachers were contacted, and those who were willing to participate in the interview session were selected. For the teachers' convenience, the interviews were conducted in their workplace (prior arrangements were made with the institutes), and the interviews lasted between 20 and 35 minutes. In terms of language, the teachers were allowed to respond to interview questions in Persian or English or use a mixture of both. Nearly all the participants dominantly used English in responding to the interview questions.

Data Analysis

The qualitative data were analyzed by standard multiple regression. Regarding qualitative analysis, all the interviews were audio recorded with a smartphone to ensure data preservation. Afterward, the recorded interviews were transcribed verbatim to provide the analysis database and to be intimately familiar with the data. The constant comparative method is used to analyze data, which usually comprises three coding phases: open/descriptive, axial/analytical, and selective coding (Merriam, 2016). By open/descriptive coding, the researchers identify any meaning units of data that might help answer the research questions. In axial/analytical coding, the researchers group similar open data together. In selective coding, the researchers select one category as the core concept and other categories obtained from the axial coding phase are grouped around it to explain the phenomena under study.

Findings

The first research question of the present study was intended to find if collaborative inquiry influences Iranian EFL teachers' professional development. A standard multiple regression was run to find the effect of collaborative inquiry on professional development components (i.e., thematic knowledge, learning environment, cooperation, educational technology, research base, educational planning, evaluation, and development of human resources). It is noteworthy that multiple regression assumptions such as normality and linearity were checked, and none was violated.

Table 1

Analysis of Variance Results for Professional Development Components Influenced by Collaborative Inquiry

Model	Sum of Squares	df	Mean Square	F	Sig.
Thematic knowledge	21.88	1	21.88	.46	.49
Learning environment	202.53	1	202.53	9.88	.00
Cooperation	182.26	1	182.26	7.34	.00
Educational technology	94.11	1	94.11	1.53	.21
Research base	16.25	1	16.25	1.25	.28
Educational planning	79.42	1	79.42	5.91	.01
Evaluation	35.11	1	35.11	3.11	.07
Development of human resources	2.28	1	2.28	.79	.37

As Table 1 shows, the model was statistically significant for the following components of professional development: the learning environment ($F = 9.88$, $p = .00$), cooperation ($F = 7.34$, $p = .00$), and educational planning ($F = 5.91$, $p = .01$). In other words, collaboratively inquiry, as perceived by Iranian EFL teachers, can affect teachers' professional development in terms of learning environment, cooperation, and educational planning. The rest of the components showed non-significant results.

Table 2

Model Summary Results for Professional Development Components Influenced by Collaborative Inquiry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Learning Environment	.22	.21	.2	4.52
Cooperation	.19	.3	.3	4.98
Educational Planning	.17	.22	.15	3.66

As can be seen in Table 2, the R square of the model for the learning environment is .21, indicating that 20% of the changes in the learning environment are due to collaborative inquiry. Regarding cooperation, the R square of the model is .3; that is, 30% of the changes in cooperation are due to collaborative inquiry. Finally, about educational planning, the R square of the model is .22, denoting that 15% of the changes in educational planning are due to the teachers' perceptions of participating in collaborative inquiry groups.

Table 3

Coefficients for Professional Development Components Influenced by Collaborative Inquiry

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Learning Environment	.09	.03	.22	3.14	.00
Cooperation	.07	.03	.38	2.71	.00
Educational Planning	.05	.02	.17	2.43	.00

Table 3 reveals that the effect of collaborative inquiry on three components of teacher professional development, namely learning environment, cooperation, and educational planning, was statistically significant ($p < .05$), and of these three components, 22% of the changes in the learning environment, 38% of the changes in cooperation and 17% of the

changes in educational planning was explained by collaborative inquiry. In other words, collaborative inquiry contributed to and affected how teachers perceived the learning environment, cooperation, and educational planning.

The second research question of the study intended to find the views of Iranian EFL teachers on the perceived benefits and challenges of collaborative inquiry. In so doing, six interviews were held with six randomly selected EFL teachers, and the responses to interview questions were recorded, transcribed verbatim, and analyzed by the constant comparative method. The results revealed that nine themes were obtained from analyzing six interviews dealing with the benefits and challenges of collaborative inquiry, which are discussed in the following. An example of constant comparative analysis for one of the themes (i.e., feeling confident about pedagogical competence) is presented in Table 4.

Table 4

Three Phases of Coding of Constant Comparative Method for Feeling Confident about Pedagogical Competence Theme

Open coding	Axial coding	Selective coding
1. "my valuable contributions"	1. assertiveness	feeling confident about pedagogical competence
2. "my motivating comments"	2. self-assurance	
3. "feeling high confidence"		
4. "guiding others follow my teaching procedure"		
5. "recommending others to try my ideas"		
6. "feeling confident by implementing new techniques"		

As mentioned above, nine themes were obtained from analyzing the collaborative inquiry benefits and challenges interviews, namely awareness of colleagues' interests and educational issues, collegial atmosphere for learning, new understandings and developing interactive activities, feeling confident about pedagogical competence, risk of losing face, unpredictable results, tight schedules, lack of discussion culture, and disinterest in changing (inflexibility). Each of these themes is introduced below, and related excerpts from interview transcripts are provided as well.

The first theme: Awareness of colleagues' interests and educational issues

The interviewers sought to find the way the collaborative inquiry process facilitated EFL teachers' awareness and interest in their profession. The analysis of the responses led the interviewers to come to the first theme mentioned above. Below are two excerpts supporting this theme.

"When teachers discuss reading strategies, I become more aware of how other teachers think about reading strategies. Then, I may come up with what I had learned before about teaching these strategies but have forgotten and, therefore, failed to use them in my class." (T4)

"I really like it when we discuss our concerns and raise questions about potential classroom issues. Hearing that other teachers have similar concerns makes me feel that I am on the right track and that my concerns are those of others as well." (T1)

The second theme: Collegial atmosphere for learning

When the respondents were asked about how the collaborative inquiry process creates a community of professional EFL teachers, nearly all the teachers mentioned a collegial atmosphere for learning.

"If I had not had this learning opportunity through collaboration, as a novice teacher, I might blindly follow my previous teachers. Sometimes, I thought about whether my teaching method was appropriate. When I felt students misunderstood me, I was interested in knowing how other teachers taught." (T5)

"Discussing and sharing teaching practices with other teachers, either novice or experienced, prompted me to reflect on what is regarded as good teaching and why." (T3)

The third theme: New understandings and developing interactive activities

Regarding how the collaborative inquiry process contributed to increased competencies and changes in the pedagogical practices of EFL teachers, the results of the analysis revealed that collaborative inquiry led to new understandings and the development of interactive activities.

"If we do something in class, for example, using an activity for the speaking section of the unit, that works very well; we like to share it with others. However, at the same time, if it becomes counter-productive, we discuss why it happened." (T2)

"Sharing information about how students respond to a special activity or what we do during a unit is always beneficial." (T6)

The fourth theme: Feeling confident about pedagogical competence

Exchanging ideas about pedagogical practices in a collaborative inquiry group made the interviewees feel confident (or more confident) about their pedagogical competence.

"I believe I learned a lot from collaboration. I feel my confidence is much higher, and I guess other teachers' confidence is higher, too. Collaborating with other teachers made me the teacher I am now." (T4)

"Discussing and sharing ideas was really valuable for me. I feel more confident in my abilities to achieve the goals I have assigned for my students." (T2)

The fifth theme: The risk of losing face

Regarding the challenges to developing collaborative inquiry teams and/or collaborating, a number of respondents referred to the issue of losing face, i.e., feeling embarrassed or ashamed when raising an issue in a group of teachers or asking for help.

"I did not want others to spot my mistakes, which made me feel miserable. I prefer to search for answers to my questions and concerns elsewhere." (T3)

"When I share my classroom practices with my colleagues and receive comments such as "Why did you do it that way?" or "You should have covered two units till now, did not you know?!" I feel embarrassed." (T1)

The sixth theme: Unpredictable results

Another challenge of collaboration with peers, reported by the respondents, was that the suggestions sometimes made by colleagues did not turn out to be the way they recommended.

"Once, I asked one of my colleagues about how to improve my vocabulary knowledge; she told me that I needed to start reading novels because I used to read too many professional texts. I took her advice and did what she said, but all to no avail." (T5)

"I feel that with most discussions end up two or three people doing the bulk of the talking, and others sit silently and listen. There is no chance for all to share their ideas, and their proposed techniques and suggestions do not always work well for me. Maybe it is my fault!" (T4)

The seventh theme: Tight schedules

Tight schedules were the most frequent barrier to collaborative inquiry among EFL teachers in Iran.

"There is not enough time for collaboration, especially if we want to talk about classroom activities, how to assess students, etc." (T3)

"One of my colleagues and I are teaching the same book, and I like to talk to her as she is more experienced than me, but she is only at the institute one day per week, and we can only collaborate on the lessons now and again." (T1)

The eighth theme: Lack of discussion culture

Another barrier to teacher collaboration in the context of Iran, as mentioned by the respondents, was lacking a discussion culture in some Iranian language institutes.

"Teachers should be willing to share their knowledge, but in Iran, not everybody might be interested in doing that. They think that others might become more successful than them or they might know and learn more than them. They keep what they know to themselves, and they do not share their knowledge." (T6)

"I do not go to the teachers' lounge because it is merely a place for complaining and nagging about everything. My colleagues do not share their experiences, so I prefer to stay in my class at break times." (T2)

The ninth theme: Disinterest in changing (inflexibility)

The last barrier to collaborative inquiry in the context of Iran is that some teachers do not like to change their minds and teaching practices and prefer to stick to what they already know and do in class. In other words, they are inflexible.

"Sharing ideas and experiences is not welcomed much where I work, maybe because my colleagues do not want to learn anymore or try new ways and methods. They prefer to follow their routine classroom procedures and not leave their so-called safe paradigms." (T6)

"One of my experienced colleagues was once nagging about other colleagues. She told me she had years of teaching experience and had nothing left to learn, especially from less experienced peers". (T4)

The nine themes obtained from interviews with teachers on the perceived benefits and challenges of collaborative inquiry are summarized in Table 5.

Table 5
Collaborative Inquiry Interview Themes

Theme	Sample excerpt
Awareness of colleagues' interests and educational issues	"Hearing that other teachers have similar concerns makes me feel that I am on the right track and that my concerns are those of others as well."
Collegial atmosphere for learning	"Discussing and sharing teaching practices with other teachers, either novice or experienced, prompted me to reflect on what is regarded as good teaching and why."
New understandings and developing interactive activities	"Sharing information about how students respond to a special activity or what we do during a unit is always beneficial."
Feeling confident about pedagogical competence	"I feel more confident in my abilities to achieve the goals I have assigned for my students."
The risk of losing face	"I did not want others to spot my mistakes, which made me feel miserable."
Unpredictable results	"There is no chance for all to share their ideas, and their proposed techniques and suggestions do not always work well for me."
Tight schedules	"There is not enough time for collaboration, especially if we want to talk about classroom activities."
Lack of discussion culture	"Teachers should be willing to share their knowledge, but in Iran, not everybody might be interested in doing that."
Disinterest in changing (inflexibility)	"They prefer to follow their routine classroom procedures and not leave their so-called safe paradigms."

Discussion

The first research question of the present study was intended to find if collaborative inquiry influences Iranian EFL teachers' professional development (i.e., thematic knowledge, learning environment, cooperation, educational technology, research base, educational planning, evaluation, and development of human resources). Findings demonstrated that collaborative inquiry affected teachers' professional development in terms of learning environment, cooperation, and educational planning.

As defined in the present study, a learning environment denotes creating a suitable class environment, classroom management, and a positive and healthy atmosphere in the classroom. Collaborative inquiry can greatly contribute to constructing a suitable class environment. By engaging in collaborative inquiry, teachers can work together to recognize and tackle any challenges or issues within the learning environment. They can collectively brainstorm solutions, analyze data, and implement effective strategies to make a more encouraging and supportive class environment (Cojorn & Sonsupap, 2023). Through collaborative inquiry, teachers can also reflect on their instructional strategies and explore new approaches that are better suited to the needs of their students. By observing and learning from their colleagues' practices, they can develop a repertoire of effective teaching techniques that promote a positive and engaging class environment (Ciampa & Gallagher, 2016). Furthermore, collaborative inquiry fosters the professional learning community development within schools or districts. This community provides a support system for teachers, where they can share best practices, look for advice, and collaborate on improving the class environment. This sense of community and collaboration creates a positive and supportive atmosphere for all (Sancar et al., 2021).

Wenger's (1998) theory of Communities of Practice, which illustrates how individuals engage in collective learning through shared practices, might justify the impact of collaborative inquiry on the classroom environment created by teachers. When teachers participate in collaborative inquiry, they form communities that focus on improving their pedagogical approaches and classroom environments. This ongoing engagement not only enhances their professional skills but also leads to the establishment of norms and practices that contribute to a healthier classroom atmosphere and effective management strategies.

In terms of classroom management, collaborative inquiry provides opportunities for evaluating their effectiveness. This continuous learning and growth can enhance classroom management skills and contribute to overall teacher effectiveness (Zepeda, 2019). Additionally, collaborative inquiry can contribute to creating a positive class environment. When teachers work together to improve classroom management, they can create consistent expectations and routines across classrooms. This can enhance affinity, safety, and engagement among students (Burden, 2020).

Cooperation is defined as schools' cooperation with teachers, teacher-parent cooperation, and cooperation with colleagues. Through engagement in collaborative inquiry, teachers actively work together to enhance their teaching practices and classroom management. This collaborative approach nurtures a sense of teamwork and cooperation among teachers (Meirink et al., 2010). Through collaborative inquiry, teachers have the opportunity to share their knowledge, expertise, and experiences with one another. This sharing of ideas and insights can enhance teachers' understanding of effectual teaching strategies and classroom management techniques. As teachers cooperate and learn from one another, they can develop a shared language and understanding of what works best in their classrooms (Lysberg, 2023).

Teacher-parent cooperation, on the other hand, involves building strong partnerships between educators and parents. Cooperations among teachers and parents facilitate the creation of a supportive learning environment for students. This collaboration can involve regular communication, sharing of information, and mutual respect for each other's roles in the education of students (LaRocque et al., 2011). Also, teacher-parent cooperation ensures that there is a consistent and holistic approach to a child's education. When teachers and parents

are on the same page, they can work together to address any challenges or concerns that may arise. This collaboration promotes increased awareness of the child's strengths, weaknesses, and individual needs (Leenders et al., 2019).

Theoretically speaking, Collaborative Learning Theory (Vygotsky, 1978) posits that learning is most effective when it occurs in a cooperative context. Regarding the present study, the collaborative inquiry framework likely created a situation where teachers felt supported by colleagues and encouraged to engage with parents. This cooperative approach encouraged teachers to share goals and resources, fostering a culture of collaboration within the school.

Finally, educational planning was defined as designing lesson plans according to the wants and concerns of students and integrating content and skills to create a better learning chance for students. By understanding the strengths, weaknesses, and learning styles of their students, teachers can design lessons that are more meaningful and relevant. This approach allows students to connect with the material on a deeper level and promotes a sense of ownership and motivation in their learning (Pham, 2012). Collaboration with colleagues might ease the process of developing lesson plans.

According to the teacher agency theory (Priestley et al., 2015), when educators engage in collaborative inquiry, they gain more control over their instructional practices. This collaborative setup helps teachers perform their educational planning, allowing them to tailor lesson plans to meet diverse student needs. Increased agency can lead to a more responsive and adaptive curriculum design, ultimately enhancing the learning experience for students.

Designing lesson plans based on students' needs also helps to differentiate instruction (Heacox, 2012). Not all students learn similarly, so it is important for teachers to offer different learning pathways. By integrating different instructional strategies, materials, and assessments, teachers can ensure equal students' access to curriculum and can demonstrate their understanding in different ways. Furthermore, designing lesson plans based on students' needs promotes inclusivity and equity in the classroom (Fuentes et al., 2021). It identifies and values the diverse backgrounds, experiences, and abilities of students. Through the integration of culturally responsive pedagogical methodologies and the facilitation of avenues for student agency and selection, educators can cultivate a more inclusive and empowering learning environment.

The second research question of the study intended to find the views of Iranian EFL teachers on the perceived benefits and challenges of collaborative inquiry. In so doing, six interviews were held with six randomly selected EFL teachers, and the responses to interview questions were recorded, transcribed verbatim, and analyzed by the constant comparative method. The results revealed that nine themes obtained from analyzing the collaborative inquiry benefits and challenges interviews, namely awareness of colleagues' interests and educational issues, collegial atmosphere for learning, new understandings and developing interactive activities, feeling confident about pedagogical competence, risk of losing face, unpredictable results, tight schedules, lack of discussion culture, and disinterest in changing (inflexibility).

Regarding the theme of awareness of colleagues' interests and educational issues, the literature suggests that even if collaborative inquiry is primarily meant to help teachers respond to practical questions, it also makes them conscious of their orientation and approach toward inquiry and their own philosophical bases about teaching (Luguetti et al., 2018). Through

participation in collaborative inquiry, teachers develop pedagogical and content knowledge and skills to promote teaching and students' learning. They acquire more effective teaching methods and become aware of various teaching tools, instructional practices, and effective teaching procedures (Bolden et al., 2014).

Even when teachers can make decisions together, meaningful collaboration inevitably leads to some level of disagreement (Vangrieken & Kyndt, 2020). When a teacher feels compelled to participate in classroom practices that are at odds with their teaching and learning philosophy, not only does controversy ensue, but these teachers may also feel that their professionalism and autonomy are at risk. This could be a clue as to why disinterest in change was one of the themes of this study. Hargreaves (2003) described the importance of voluntary and willing participation for successful collaboration. When teachers lack the qualities identified by study participants, collaboration can become an uncomfortable, conflicted challenge that would rarely be effective or beneficial for busy teachers and their students. The desire for change can force teachers to abandon preferred teaching methods and materials, which is a difficult but necessary part of the learning process in collaborative communities.

Besides, the collaboration dynamics include other time-related issues (tight schedule theme), such as the apparent challenge of the participants finding time for collaboration. The time devoted to collaborative learning should be long enough to let the teachers think, reshape educational issues, and share their ideas (Yosief et al., 2024). Collaboration over a long time is also required for teachers to develop trust, allowing them to uncover their teaching beliefs and ideas (Tao & Gao, 2021). In general, it is essential to facilitate teachers' participation in collaborative learning by devoting special time to teacher development, lessening administrative work, and appreciating teachers' efforts to promote the learning atmosphere.

Regarding the lack of a discussion culture, Sergiovanni (2004) defined collaborative cultures as "deliberate ones . . . creating a strong bond of people committed to working together toward goals and purposes that they share" (p. 51). He further stated that when a school promotes a collaborative and balanced culture, "it can harness all of its intelligence, creativity, and leadership to solve problems and be successful" (p. 48). In other words, this collaborative culture stimulates teachers to cooperate in achieving their goals and resolving professional problems.

Gaining new understanding is a benefit of collaboration. In other words, the best path to develop effectual teaching practices is brainstorming with experienced teachers and other professionals and benefiting from the effective practices of one another (Darling-Hammond, 2010). Similarly, Johnson (2003) stated, "Overall, teachers reported considerable benefits from working collaboratively in terms of their learning about the 'crafts' of teaching and their abilities to reflect on teaching and learning" (p. 346).

Schön's (1983) theory of reflective practice suggests that professional growth arises from reflecting on experiences and actions. This is particularly relevant to the themes of "new understandings and developing interactive activities" and "feeling confident about pedagogical competence." Through collaborative inquiry, teachers have the opportunity to share their reflections, which can lead to innovative teaching practices and increased confidence in their abilities, enhancing their overall pedagogical competence.

In supporting teachers' collaboration, problem-solving ability can also be strengthened when teachers regard each other as allies (Akinyemi et al., 2019). Regarding novice teachers,

Nieto (2009) persuades them to “make a friend . . . when teacher develop allies, they remain fresh, committed, and hopeful” (p. 12) during their early years of teaching. Having the support of other colleagues’ experience and knowledge, described as “practitioner knowledge” (Hiebert et al., 2002, p. 6) was crucial for the participants of the present study. When teachers gather together to communicate their personal perspectives to others and employ more effective teaching practices, “the extraordinary synergy of collaboration can be realized” (Friend, 2000, p. 160).

Moreover, collaboration enhances risk-taking, elicits more diverse teaching strategies, and improves teachers’ self-efficacy, as self-confidence (one of the themes of the study) is increased by positive feedback and encouragement (Cabieses, 2021). Teachers who work in collaboration can cope with innovations, reforms, and demands of their educational and political systems more assertively and confidently. Given that feelings are intermingled in group performance (Lavoie et al., 2024), self-confidence might promote personal agency and action, resulting in trusting others in interactions. Consequently, trust implies ensuring others’ actions align with the person’s expectations and, as a result, fosters interpersonal confidence and dependence (Qi, 2022). Efficient teacher collaboration aids teachers in thinking about their pedagogical practices and feeling more confident about their professional capabilities (Williams, 2010).

Bourdieu’s (1986) Social Capital Theory postulates that social networks, norms, and trust facilitate cooperation and resource sharing among individuals. The findings related to collegial atmosphere for learning and awareness of colleagues’ interests and educational issues can be examined through the lens of social capital, as collaboration fosters relationships that enhance the sharing of knowledge and resources. However, challenges such as disinterest in changing (inflexibility) may indicate low levels of social capital, which hinder the effectiveness of collaborative practices.

However, a “fear of evaluation,” commonly seen among teachers (O’Rourke, 2015), is often caused by what Hargreaves (1980) called “fundamental competence anxiety.” Hobson and McIntyre (2013) define it as “the anxiety teachers can feel about appearing incompetent . . . along with (in varying degrees) related constructs of insecurity, embarrassment, and shame associated with the fear of being judged and of other potential repercussions of being ‘found out’ as less than perfect teachers” (p. 354). This might justify why the teachers were afraid of losing face.

Regarding limitations, the sample was limited to Iranian EFL teachers, so the findings might not be generalizable to other teachers in other contexts. Furthermore, no training on collaborative inquiry was provided for teacher participants. Finally, while this study focused on EFL teachers’ perspectives, it would be valuable to explore the viewpoints of other stakeholders (e.g., students, parents, and administrators) on the role of collaborative inquiry in education and professional development.

The findings of this study might ask policymakers to cooperate with teachers since they significantly affect the creation, implementation, and evaluation of educational policies when developing a new curriculum. Policymakers might engage teachers in the curriculum development process by inquiring about their needs and views. Besides, school principals can design collaborative learning experiences to foster reflection. Finally, teachers should also look

at collaboration as an opportunity for self-growth and assist their colleagues in developing and improving their teaching practices.

Conclusion

This study underscores the significant role of collaborative inquiry in enhancing the professional development of Iranian EFL teachers. Through the integration of various data collection methods—including surveys and interviews—the research revealed that collaborative inquiry positively influences key dimensions of professional growth, such as creating a conducive learning environment, fostering cooperation among teachers, and improving educational planning. The emergence of themes related to the benefits and challenges of collaborative inquiry highlights the nuanced experiences of educators as they engage in collective practices. Notably, aspects such as increased awareness of colleagues' interests and the development of interactive activities were balanced by challenges, including tight schedules and resistance to change.

The findings suggest that fostering a culture of collaboration among educators can lead to meaningful professional advancement, encouraging stakeholders to prioritize collaborative inquiry in professional development initiatives. By addressing the identified challenges—such as promoting a positive discussion culture and providing adequate time for collaboration—policymakers and school administrators can create environments that support sustained professional growth for teachers. Moreover, this study advocates for ongoing support and resources to help educators navigate the complexities of collaboration, thus ultimately enhancing teaching practices and student learning outcomes in the EFL context.

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Acknowledgements

Not applicable.

Funding

Not applicable.

Ethics Declarations

Competing Interests

No, there are no conflicting interests.

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References

- Akinyemi, A. F., Rembe, S., Shumba, J., & Adewumi, T. M. (2019). Collaboration and mutual support as processes established by communities of practice to improve continuing professional teachers' development in high schools. *Cogent Education*, 6(1), Article 1685446. <https://doi.org/10.1080/2331186X.2019.1685446>
- Ayyoobi, F., Pourshafei, H., & Asgari, A. (2016). Codification and validation of professional development questionnaire of teachers. *International Education Studies*, 9(4), 215-224.
- Ball, A. F. (2009). Toward a theory of generative change in culturally and linguistically complex classrooms. *American Educational Research Journal*, 46(1), 45-72. <https://doi.org/10.3102/0002831208323277>
- Bergmark, U. (2023). Teachers' professional learning when building a research-based education: Context-specific, collaborative and teacher-driven professional development. *Professional Development in Education*, 49(2), 210-224. <https://doi.org/10.1080/19415257.2020.1827011>
- Bolden, B., Christou, T., DeLuca, C., Klinger, D., Kutsyuruba, B., Pyper, J., Shulha, L., and Wade-Woolley, L. (2014). *Professional learning cultures: An evaluation of collaborative inquiry in Ontario elementary schools*. Final evaluation report, Queen's University, RFS No. 1339. <http://edu.gov.on.ca/eng/research/queensReport.pdf>
- Bourdieu, P. (1986). Forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-260). Greenwood Press.
- Brodie, K. (2021). Teacher agency in professional learning communities. *Professional Development in Education*, 47(4), 560-573. <https://doi.org/10.1080/19415257.2019.1689523>
- Brown, C., Poortman, C., Gray, H., Ophoff, J. G., & Wharf, M. M. (2021). Facilitating collaborative reflective inquiry amongst teachers: What do we currently know? *International Journal of Educational Research*, 105, Article 101695. <https://doi.org/10.1016/j.ijer.2020.101695>
- Burden, P. R. (2020). *Classroom management: Creating a successful K-12 learning community*. John Wiley & Sons.
- Butler, D. L., & Schnellert, L. (2012). Collaborative inquiry in teacher professional development. *Teaching and Teacher Education*, 28(8), 1206-1220. <https://doi.org/10.1016/j.tate.2012.07.009>
- Cabieses, K. E. (2021). *Developing collective teacher efficacy to help secondary teachers feel confident in their positions* [Master's thesis, Bethel University]. Spark Repository. <https://spark.bethel.edu/etd/755>
- Cantalini-Williams, M. T., Curtis, D., Eden-DeGasparis, K., Esposto, L., Guibert, J., Papp, H., & Roque, C. (2015). Exploring the benefits of a collaborative inquiry team in education (CITE) initiative to develop a research community and enhance student engagement. *Brock Education Journal*, 25(1), 56-72. <https://doi.org/10.26522/brocked.v25i1.439>
- Cheng, X., & Pan, X. (2019). English language teacher learning in professional learning communities: A case study of a Chinese secondary school. *Professional Development in Education*, 45(4), 698-712. <https://doi.org/10.1080/19415257.2019.1579109>
- Ciampa, K., & Gallagher, T. L. (2016). Teacher collaborative inquiry in the context of literacy education: Examining the effects on teacher self-efficacy, instructional and assessment practices. *Teachers and Teaching*, 22(7), 858-878. <https://doi.org/10.1080/13540602.2016.1185821>
- Cojorn, K., & Sonsupap, K. (2023). An activity for building teaching potential designed on community of practice cooperated with lesson study. *Journal of Curriculum and Teaching*, 12(4), 62-70. <https://doi.org/10.5430/jct.v12n4p62>
- Comber, B. (2013). Schools as meeting places: Critical and inclusive literacies in changing local environments. *Language Arts*, 90(5), 361-371.
- Cooper, R., Fitzgerald, A., & Carpendale, J. (2022). A reading group for science educators: An approach for developing personal and collective pedagogical content knowledge in science education. *International Journal of Science and Mathematics Education*, 20(Suppl 1), 117-139. <https://doi.org/10.1007/s10763-022-10260-y>
- Cordingley, P., Higgins, S., Greany, T., Buckler, N., Coles-Jordan, D., Crisp, B., & Coe, R. (2015). *Developing great teaching*. Teacher Development Trust. Retrieved from <https://tdtrust.org/wp-content/uploads/2015/10/DGT-Full-report.pdf>
- Coulter, C., & Richardson, L. K. (2025). Sustained collaborative inquiry with teachers of multilingual learners. *TESOL Journal*, 16(1), Article e900. <https://doi.org/10.1002/tesj.900>
- Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. Teachers College Press.
- Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education*, 40(3), 291-309. <https://doi.org/10.1080/02619768.2017.1315399>
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.

- Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession*. National Staff Development Council.
- DeLuca, C., Bolden, B., & Chan, J. (2017). Systemic professional learning through collaborative inquiry: Examining teachers' perspectives. *Teaching and Teacher Education, 67*, 67-78. <https://doi.org/10.1016/j.tate.2017.05.014>
- DeLuca, C., Shulha, J., Luhanga, U., Shulha, L. M., Klinger, D. A., & Christou, T. (2015). Collaborative inquiry as a professional learning structure for educators: A scoping review. *Professional Development in Education, 41*(1), 640-670. <https://doi.org/10.1080/19415257.2014.933120>
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher, 38*(3), 181-199. <https://doi.org/10.3102/0013189X08331140>
- Forey, G., Firkins, A. S., & Sengupta, S. (2012). Full circle: Stakeholders' evaluation of a collaborative enquiry action research literacy project. *English Teaching: Practice and Critique, 11*(4), 70-87.
- Friend, M. (2000). Myths and misunderstandings about professional collaboration. *Remedial and Special Education, 21*(3), 130-132. <https://doi.org/10.1177/074193250002100301>
- Fuentes, M. A., Zelaya, D. G., & Madsen, J. W. (2021). Rethinking the course syllabus: Considerations for promoting equity, diversity, and inclusion. *Teaching of Psychology, 48*(1), 69-79. <https://doi.org/10.1177/0098628320959979>
- Green, J. K., Napan, K., Jülich, S. J., Stent, W. J., Thomas, J. A., Lee, D. J., & Green, M. D. (2024). Transforming teaching through cooperative inquiry: meaningful research for university teachers. *Educational Action Research, 1*-21. <https://doi.org/10.1080/09650792.2024.2374745>
- Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching, 8*(3), 381-391. <https://doi.org/10.1080/135406002100000512>
- Hargreaves, A. (2003). *Teaching in the knowledge society: Education in the age of insecurity*. Teachers College Press.
- Hargreaves, D. (1980). The occupational culture of teaching. In P. Woods (Ed.), *Teacher strategies* (pp. 125- 148). Croom Helm.
- Harvey, F., & Teledahl, A. (2022). Characteristics of collaborative learning in teacher professional development: A systematic review. *Mathematics Teacher Education and Development, 24*(1), 72-95.
- Heacox, D. (2012). *Differentiating instruction in the regular classroom: How to reach and teach all learners*. Free Spirit Publishing.
- Hiebert, J., Gallimore, R., & Stigler, J. (2002). A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher, 31*(5), 3-15. <https://doi.org/10.3102/0013189X031005003>
- Hobson, A. J., & McIntyre, J. (2013). Teacher fabrication as an impediment to professional learning and development: The external mentor antidote. *Oxford Review of Education, 39*(3), 345-365. <https://doi.org/10.1080/03054985.2013.808618>
- Horn, I. S., & Little, J. W. (2009). Attending to problems of practice: Routines and resources for professional learning in teachers' workplace interactions. *American Educational Research Journal, 47*(1), 181-217. <https://doi.org/10.3102/0002831209345158>
- Johnson, B. (2003). Teacher collaboration: Good for some, not so good for others. *Educational Studies, 29*(4), 337-350. <https://doi.org/10.1080/0305569032000159651>
- Kolesnyk, L., & Biseth, H. (2024). Professional development in teacher education through international collaboration: when education reform hits Ukraine. *Professional Development in Education, 50*(2), 347-359. <https://doi.org/10.1080/19415257.2023.2193197>
- Kong, S. C., & Wang, Y. Q. (2024). The impact of school support for professional development on teachers' adoption of student-centered pedagogy, students' cognitive learning and abilities: A three-level analysis. *Computers & Education, 215*, Article 105016. <https://doi.org/10.1016/j.compedu.2024.105016>
- LaRocque, M., Kleiman, I., & Darling, S. M. (2011). Parental involvement: The missing link in school achievement. *Preventing School Failure, 55*(3), 115-122. <https://doi.org/10.1080/10459880903472876>
- Lavoie, R., Baer, M., & Rouse, E. D. (2024). Group flow: A theory of group member interactions in the moment and over time. *Academy of Management Review, 1*-26. <https://doi.org/10.5465/amr.2021.0458>
- Lee, T. (2009). *Educational leadership for the 21st century: Leading school improvement through collaborative enquiry*. Paper presented at the Canadian Association for Studies in Educational Administration conference, Ottawa, ON, May.
- Leenders, H., De Jong, J., Monfrance, M., & Haelermans, C. (2019). Building strong parent-teacher relationships in primary education: The challenge of two-way communication. *Cambridge Journal of Education, 49*(4), 519-533. <https://doi.org/10.1080/0305764X.2019.1566442>

- Luguetti, C., Aranda, R., Nuñez Enriquez, O., & Oliver, K. L. (2018). Developing teachers' pedagogical identities through a community of practice: Learning to sustain the use of a student-centered inquiry as curriculum approach. *Sport, Education and Society*, 24, 855–866. <https://doi.org/10.1080/13573322.2018.1476336>.
- Lysberg, J. (2023). Unpacking capabilities for professional learning: teachers' reflections on processes of collaborative inquiry in situated teamwork. *Journal of Workplace Learning*, 35(1), 1-16. <https://doi.org/10.1108/JWL-01-2022-0008>
- MacPhail, A., Scanlon, D., & Tannehill, D. (2025). Preparing pre-service physical education teachers as practitioner researchers. *Physical Education and Sport Pedagogy*, 30(2), 218-232. <https://doi.org/10.1080/17408989.2023.2206849>
- McIntosh, E., & Nutt, D. (2022). The impact of the integrated practitioner: Perspectives on integrated practice to enhance student success. *Student Success*, 13(2), 1-9.
- Meirink, J. A., Imants, J., Meijer, P. C., & Verloop, N. (2010). Teacher learning and collaboration in innovative teams. *Cambridge Journal of Education*, 40(2), 161-181. <https://doi.org/10.1080/0305764X.2010.481256>
- Merriam, S. B. (2016). *Qualitative research: A guide to design and implementation* (Fourth edition. ed.). Jossey-Bass, a Wiley brand.
- Meyer, A., Richter, D., & Hartung-Beck, V. (2022). The relationship between principal leadership and teacher collaboration: Investigating the mediating effect of teachers' collective efficacy. *Educational Management Administration & Leadership*, 50(4), 593-612. <https://doi.org/10.1177/1741143220945698>
- Nalbantoğlu, Ü. Y., & Bümen, N. T. (2024). Changes in the curriculum adaptation skills of teachers as a result of professional development support: A Turkish case study. *Teaching and Teacher Education*, 137, Article 104386. <https://doi.org/10.1016/j.tate.2023.104386>
- Nelson, T. (2008). Teachers' collaborative inquiry and growth. Should we be optimistic? *Science Education*, 93(3), 548–580. <https://doi.org/10.1002/sce.20302>
- Nieto, S. (2009). From surviving to thriving. *Educational Leadership*, 66(5), 8-13.
- OECD (2009). *The professional development of teachers. In: Creating effective teaching and learning environments: first results from TALIS*. OECD.
- Olin, A., Francisco, S., Salo, P., Pörn, M., & Karlberg-Granlund, G. (2020). Collaborative professional learning for changing educational practices. In K. Mahon, C. Edwards-Groves, S. Francisco, M. Kaukko, S. Kemmis, & K. Petrie, K (Eds.), *Pedagogy, education, and praxis in critical times* (pp. 141-162). Springer.
- O'Rourke, J. (2015). Inclusive schooling: if it's so good—why is it so hard to sell? *International Journal of Inclusive Education*, 19(5), 530-546.
- Pehmer, A. K., Gröschner, A., & Seidel, T. (2015). How teacher professional development regarding classroom dialogue affects students' higher-order learning. *Teaching and Teacher Education*, 47, 108-119. <https://doi.org/10.1016/j.tate.2014.12.007>
- Pham, H. L. (2012). Differentiated instruction and the need to integrate teaching and practice. *Journal of College Teaching and Learning (TLC)*, 9(1), 13-20.
- Ping, C., Schellings, G., Beijgaard, D., & Ye, J. (2021). Teacher educators' professional learning: perceptions of Dutch and Chinese teacher educators. *Asia-Pacific Journal of Teacher Education*, 49(3), 262-281. <https://doi.org/10.1080/1359866X.2020.1725808>
- Polly, D., McGee, J., Wang, C., Martin, C., Lambert, R., & Pugalee, D. K. (2015). Linking professional development, teacher outcomes, and student achievement: The case of a learner-centered mathematics program for elementary school teachers. *International Journal of Educational Research*, 72, 26-37. <https://doi.org/10.1016/j.ijer.2015.04.002>
- Powell, C. G., & Bodur, Y. (2019). Teachers' perceptions of an online professional development experience: Implications for a design and implementation framework. *Teaching and Teacher Education*, 77, 19-30. <https://doi.org/10.1016/j.tate.2018.09.004>
- Priestley, M., Biesta, G. J. J., Philippou, S., & Robinson, S. (2015). The teacher and the curriculum: Exploring teacher agency. In D. Wyse, L. Hayward, & J. Pandya (Eds.), *The Sage handbook of curriculum, pedagogy and assessment* (pp. 78 – 91). Sage.
- Qi, X. (2022). Trust upset: Redefining the terms of trust in maintaining exchange relations. *The Sociological Review*, 70(3), 599-615. <https://doi.org/10.1177/00380261211049035>
- Ramos, J. L., Cattaneo, A. A., de Jong, F. P., & Espadeiro, R. G. (2022). Pedagogical models for the facilitation of teacher professional development via video-supported collaborative learning. A review of the state of the art. *Journal of Research on Technology in Education*, 54(5), 695-718. <https://doi.org/10.1080/15391523.2021.1911720>
- Sancar, R., Atal, D., & Deryakulu, D. (2021). A new framework for teachers' professional development. *Teaching and Teacher Education*, 101, 103305. <https://doi.org/10.1016/j.tate.2021.103305>
- Sergiovanni, T. J. (2004). Collaborative cultures and communities of practice. *Principal Leadership*, 5(1), 48-52.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

- Soodmand Afshar, H., & Donyaie, S. (2024). Individual and collective reflective journals and EFL teachers' professional development and identity construction. *Applied Research on English Language*, 13(3), 91-112. <https://doi.org/10.22108/are.2024.140746.2244>
- Strickland, J. R. (2023). *The reorganization of schools into teacher team-based structures: An exploration of collegial supports in the era of accountability*. Indiana University.
- Swafford, J. O., Jones, G. A., Thornton, C. A., Stump, S. L., & Miller, D. R. (1999). The impact on instructional practice of a teacher change model. *Journal of Research and Development in Education*, 32, 69-82.
- Tao, J., & Gao, X. A. (2021). *Language teacher agency*. Cambridge University Press.
- Vangrieken, K., & Kyndt, E. (2020). The teacher as an island? A mixed method study on the relationship between autonomy and collaboration. *European Journal of Psychology of Education*, 35(1), 177-204. <https://doi.org/10.1007/s10212-019-00420-0>
- Vygotsky, L. (1978). Interaction between learning and development from mind and society. In M. Gauvain & M. Cole (Eds.), *Readings on the development of children* (pp. 79-91). Harvard University Press.
- Walter, C., & Briggs, J. (2012). *What professional development makes the most difference to teachers*. Oxford University Press.
- Webster-Wright, A. (2009). Reframing professional development through understanding authentic professional learning. *Review of Educational Research*, 79(2), 702-739.
- Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems Thinker*, 9(5), 2-3.
- Williams, M. L. (2010). *Teacher collaboration as professional development in a large, suburban high school*. [Doctoral dissertation, The University of Nebraska-Lincoln]. <https://digitalcommons.unl.edu/cehsdiss/94>
- Yosief, A., Sulieman, M. S., & Biede, T. (2024). Improving the practices of teacher educators through collaborative action research: Challenges and hopes. *Educational Action Research*, 32(2), 204-221. <https://doi.org/10.1080/09650792.2022.2066147>
- Zepeda, S. J. (2019). *Professional development: What works*. Routledge.