

How EFL Teachers' Pedagogical Content Knowledge (PCK) Grows Through Collaborative Learning: A Review Based on The Interconnected Model of Professional Growth (IMPG)

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Article information	Abstract
<p>Article history: Received: 3 Mar 2022 Accepted: 7 Nov 2022 Available online: 9 Nov 2022</p>	<p>Since Shulman (1986b) argued that pedagogical content knowledge (PCK) should be a significant indicator of teacher knowledge for quality teaching, PCK has received enormous attention from researchers in the teacher education field. Nevertheless, little empirical and theoretical attention has been given to English as a Foreign Language (EFL) teachers' PCK growth in teachers' collaborative learning activities (Li et al., 2021). In practice, collaborative learning groups for EFL teachers are often adopted as an effective teacher learning activity as it always integrates observations and discussions of real EFL teaching practices such as English teaching pedagogies and subject matters, for example. However, how EFL teachers' collaborative learning promotes their PCK growth is less explored by empirical or theoretical studies and some teacher professional growth models. Therefore, this review will mainly discuss via existing literature how EFL teachers could increase their PCK in collaborative learning based on one particular teacher professional growth model, called the Interconnected Model of Professional Growth (IMPG) summarized by Clarke and Hollingsworth (2002). Since IMPG only generally summarizes teachers' professional growth, this article aims to specifically elaborate the various trajectories of EFL teachers' PCK growth. The significant role of three essential factors, namely, EFL teachers' initiatives to learn/share, reciprocal mindset, and reflective dialogues in EFL teachers' PCK development are stated in the paper. Several recommendations are made to EFL teachers, EFL teacher trainers, and EFL education programs.</p>
<p>Keywords: EFL teachers Pedagogical content knowledge EFL teachers' collaborative learning Professional growth Reflection and enactment</p>	

INTRODUCTION

EFL teacher group learning workshops, courses, and programs have been quite prevalent in recent decades among EFL teachers, like the Certificate in Teaching English to Speakers of Other Languages (CELTA) courses (Ganji et al., 2018). The chances for EFL teachers to have peer interaction or peer collaboration in their careers would contribute to the language development of students (Hindin et al., 2007). Such development includes language learners' enhanced learning motivation and academic performance improvement (Drossel & Eickelmann, 2017). A key feature of such teacher group training programs is that, theoretically, they could

be characterized as a kind of social learning for teachers situated in social constructivism. According to S. Chuang (2021), social constructivists regard the group learning of teachers as a social process in which reality is constructed via shared meaning-making activities or personal experiences, and teacher knowledge is constructed as the outcome. This is to say, EFL teachers could construct their teacher knowledge through peer sharing in a teacher learning group. However, merely realizing the social nature of EFL teacher group learning does not necessarily guarantee the effectiveness of this kind of teacher collaboration. It is important to pay attention to a fuller picture of EFL teachers' collaborative learning by considering a plethora of contextual and personal factors that influence EFL teachers' knowledge development.

It has been widely suggested by EFL researchers (e.g., Ali & Hamza, 2018; Ostovar-Nameghi & Sheikhhahmadi, 2016; Shakenova, 2017) that teachers' collaborative learning could promote teacher knowledge growth. Gersten et al. (2010) argued that teacher knowledge growth and development are closely linked with "the improvements in teaching practice, student achievement, and school culture" (p. 4). More importantly, EFL teachers could develop their teacher knowledge, especially PCK, during the process of thinking, reflecting, listening, and discussing in teacher learning groups (De Jong, 2000).

Despite these efforts made by previous researchers, there is a paucity of studies about how EFL teachers differ in their PCK growth in collaborative learning activities or programs. Without sufficient empirical support, EFL teachers' collaborative learning programs might be unable to be designed in a way to support teacher learning adequately (Schindler et al., 2021; Kennedy, 2016). Hence, having a better understanding of how EFL teachers' PCK grows could greatly provide insights into these areas. Conceptually, the Interconnected Model of Professional Growth designed by Clarke and Hollingsworth (2002) seems to be a holistic model that could be adopted to analyze this phenomenon in light of its comprehensiveness. Therefore, in this article, I will first briefly review collaborative learning for EFL teachers, the growth of PCK, and IMPG (Clarke & Hollingsworth, 2002). Having realized the influence of some factors from teacher collaboration in groups on EFL teachers' PCK growth, I will then focus on exploring the impact of three key factors: EFL teachers' initiatives to learn/share, a reciprocal mindset, and reflective dialogues in the PCK growth situations. Lastly, I will conclude how EFL teachers, EFL trainers, and EFL education programs could maximize the effectiveness of group learning in their PCK growth by these factors.

Teacher collaboration in learning groups

Teacher learning groups for EFL teachers are generally characterized by peer coaching, group discussions of teachers' EFL lesson planning, observations of their EFL lessons, and reflection-sharing (Goker, 2006; Gutiérrez et al., 2019; Fazio, 2009). Peer coaching often refers to the process of two EFL teachers "working together in and out of the classroom to plan instruction, develop support materials, and watch one another work with students" (Goker, 2006). Group discussions between EFL teachers are normally presented in the form of small-group discussions or whole-group discussions (Gutiérrez et al., 2019). The topics of group discussion often contain English teaching pedagogies, language curriculum, student engagement in classroom activities, and reflections on class management. The study result of Kuusisaari (2013) showed that in-

service teachers' collaborative learning in group discussions could facilitate teachers in bridging teaching and learning theory with real classroom practices. Another study conducted by Karakaş and Yükselir (2021) in a southwestern Turkish state university demonstrated that pre-service EFL teachers also could develop critical thinking towards teaching and learning through reflections in group discussions after watching video-recorded sessions. As a result, being reflective EFL practitioners in teacher learning groups seems to be rather significant for EFL teachers in their professional journey as reflections strengthen their understanding and help them gain more insights toward teacher knowledge.

Theoretically, apart from social learning theory, three key concepts—cooperative learning (Slavin, 2011), collaborative learning (Dillenbourg, 1999), and 'Communities of Practices' (CoP) (Bannister, 2015)—appear to be of great importance with regard to teacher collaboration and teacher group learning. Cooperative learning between EFL teachers often emerges in small groups that set goals for the whole group instead of individuals (Slavin, 2011), while collaborative learning between EFL teachers highlights the interaction between them, which aligns with social learning and the stimulation and contribution to the initiation of the learning of EFL teachers; sometimes, there might not be any interaction (Dillenbourg, 1999). This means that collaborative learning between EFL teachers also promotes these teachers' individual work in a teacher learning group and could fit in with Piaget's theory (1964) on learners' individual cognitive learning processes.

Compared with cooperative learning, collaborative learning could be a more suitable term to describe EFL teacher group learning, since *cooperative* stresses interdependence, while *collaborative* stresses the interaction between members. According to Johnson and Johnson (2009), social interdependence means that the outcomes of individuals in the group would be influenced by their own and others' actions, positively or negatively. That is to say, cooperative learning only stresses the relationship and impact between group members in terms of the quality of relationships and psychological health (Johnson & Johnson, 2008). It seems that teachers' interpersonal relationships in learning groups would influence their learning since they need to learn from other teachers. However, it might be rather risky and dangerous to rely on cooperation in learning groups since "no interdependence exists when there is no correlation among individuals' goal achievements; individuals perceive that the achievement of their goals is unrelated to the goal achievement of others" (Johnson and Johnson, 2009, p. 366). On the contrary, collaboration makes EFL teachers learn in groups depending on both their own reflection and sharing in joint social interaction (Ronfeldt et al., 2015). Collaborative learning between EFL teachers also involves more contextual and personal factors that might influence social interactions rather than dependence between members (Johnson, 2003).

Although collaborative learning of EFL teachers could improve EFL teachers' classroom practice, as well as stimulate and renew their intellectual growth, particularly in their language content knowledge (Hindin et al., 2007), it might bring some negative influences, such as "an increase in their workloads, a loss of professional autonomy, and the emergence of damaging competition between teams for resources, recognition, and power" (Johnson, 2003, p. 337). It is worth noting that there might be some personal interest conflicts with others in EFL teachers' group collaboration. If there is a competition between members, and they could not handle it well,

collaboration may negatively affect the professional development of these EFL teachers. As long as these negative impacts could be mediated and avoided to some degree, EFL teachers' collaboration in their learning groups would be mutually beneficial for them.

The last term, 'Communities of Practices' (CoP), first raised by Lave and Wenger (1991), emphasizes more on the social nature and unity of EFL teachers' group learning. They described three key features of the CoP (Lave & Wenger, 1991):

- Learners (EFL teachers) mutually engage in the group activities.
- Learners (EFL teachers) are held together by a joint enterprise.
- Learners (EFL teachers) relate to a shared repertoire.

Later, Sánchez-Cardona et al. (2012) gave a widely accepted definition of CoP: "groups of people who have a common interest in learning collaboratively through social interaction and through sharing knowledge about the best practices related to their profession" (p. 1821).

One potential problem with CoP mentioned by Hindin et al. (2007) is that when leadership appears in CoP, EFL teachers might not be able to learn and share equally, which might render the CoP ineffective. Thus, they suggest that leadership should not be emphasized in CoP (Hindin et al., 2007). Bannister (2015) also expressed the same concern as Hindin et al. (2007) and claimed that learning communities should be established to provide equal opportunities for EFL teachers to participate in the discussion and should discourage the dominance of a particular member.

Nevertheless, Bannister (2015) argued that the core of teacher group learning should be establishing CoP. This is supported by Sánchez-Cardona et al. (2012), who clarified that the CoP of teachers could bring participants formal and informal learning opportunities and encourage collaboration between community members. Similarly, Patton and Parker (2017) believed that a sharing community among teachers is one of the most effective approaches to their professional growth. In their study, they found that teachers' participation in CoP has two main benefits: "bringing teachers together" and "breaking down the walls of solo practices" (Byrk, 2016, p. 469), thus offering an interactive platform for teachers' collaborative learning.

Pedagogical content knowledge (PCK)

In the teachers' professional development (PD) domain, PCK was initially raised by Shulman (1986b). According to Shulman (1986b), teacher knowledge encapsulates content knowledge (subject knowledge) (CK), pedagogical knowledge (teaching principles and skills) (PK), and pedagogical content knowledge (PCK). The connection between these three kinds of knowledge could be clearly seen in Figure 1.

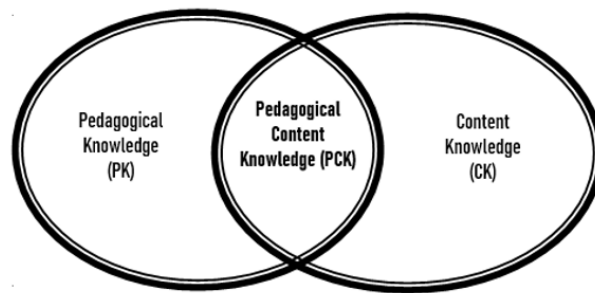


Figure 1 Adapted from the PCK figure (Winkelman, 2020)

As shown by Figure 1, PCK refers to the overlapped area of pedagogical knowledge (PK) and content knowledge (CK) (Winkelman, 2020). Shulman (1986b) defined PCK in this way:

... embodies the aspects of content most germane to its teachability. Within the category of pedagogical content knowledge I include, for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations – in a word, the ways of representing and formulating the subject that make it comprehensible to others . . . [It] also includes an understanding of what makes the learning of specific concepts easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning (p. 9).

In the case of EFL teaching, PCK represents the EFL teachers' knowledge of using proper language teaching strategies and pedagogies to organize the teaching of EFL. Specifically, EFL teachers need to know "the knowledge about what to teach, how to teach it, how to engage students and how to deal with students' learning difficulties" (Shulman, 1986a, p. 8). For instance, Xu (2015) indicated that EFL teachers' PCK entails the knowledge of how to teach language skills in general, like reading skills and listening skills. According to Shariatifar et al. (2017), there are three types of PCK knowledge: knowledge of teaching and assessing the components of the curriculum, knowledge of developing, planning, and managing language teaching, and knowledge of developing and evaluating instructional materials. In the study of Li et al. (2021), researchers collected data on PCK knowledge in four components: knowledge of curriculum, knowledge of learners, knowledge of instructional strategies, and knowledge of assessment. The catalogs of PCK might differ in Shariatifar et al.'s (2017) study and Li et al.' (2021), yet they all emphasize the knowledge of the practical application of teaching approaches combined with theoretical knowledge: the combination of theory and practice. In 2009, Koehler and Mishra put forward a new framework called Technological Pedagogical Content Knowledge (TPACK) based on Shulman's (1986b) PCK theory. TPACK integrates the role of technology with pedagogical knowledge and content knowledge (As shown in Figure 2). However, this article will focus on PCK, so the technology issues will not be explored greatly in the following sections.

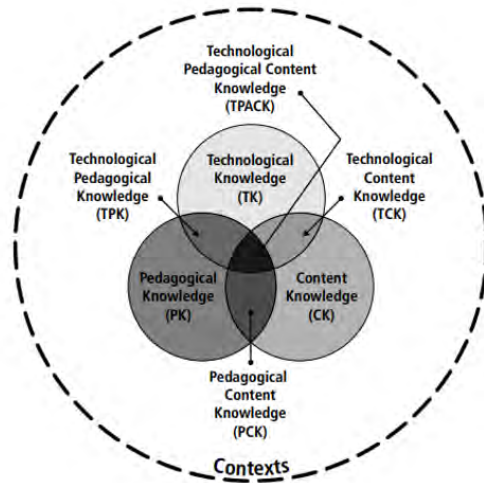


Figure 2 Cited from the TPACK framework and its knowledge components (Koehler & Mishra, 2009)

The interconnected model of professional growth (IMPG)

It seems that how EFL teachers' PCK grows and in what domains play a vital role in gaining advancement in their professional development. However, no researchers or educators specified the domains of teacher growth before Clarke and Peter (1993). They state that there are four significant domains of teacher growth: 1) the external domain (i.e., changes in resources and the school environment), 2) the domain of practice (i.e., changes in the teachers' teaching procedures), 3) the domain of consequence (i.e., changes that go beyond teachers' actions such as student learning), and 4) the personal domain (i.e., changes at the personal level, such as knowledge, beliefs, and attitudes). Since these domains are not exclusive to each other but interconnected with each other, Clarke and Hollingsworth (2002) modified the relationship between these four domains Clarke and Peter (1993) put forward by adding nine arrows, vividly pointing out how teacher change could happen in their IMPG. (See Figure 3).

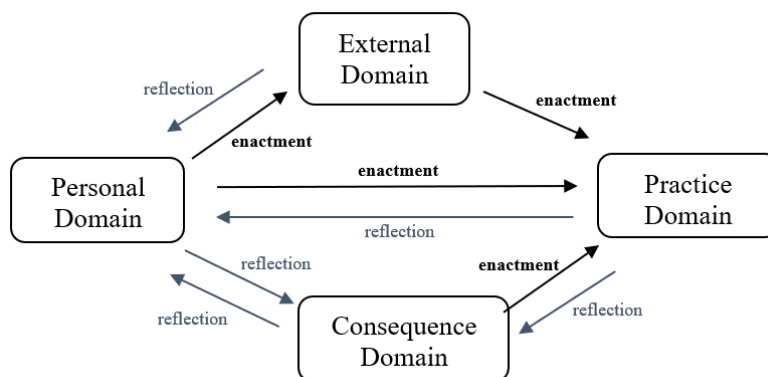


Figure 3 Adopted from the interconnected model of professional growth (IMPG) (Clarke & Hollingsworth, 2002)

Based on this teacher growth model, Thurlings and Brok (2017) have argued one change in the aforementioned domains could cause teacher knowledge to change in another domain. They also suggested that teacher knowledge change could occur “through reflection (i.e., thinking) and through enactment (i.e., doing), resulting in domains affecting each other, in other words, a sequential learning outcome occurs” (Thurlings & Brok, 2017, p. 557). For example, learning in groups could start with EFL teachers reflecting on their own teaching practices, as reflective practitioners argued by Schön (1983). Then, EFL teachers could share and discuss with other teachers about their concerns and views, which is the stage of absorption of new information. Lastly, these teachers could form a fuller picture of teaching and a new understanding of teaching and learning and could incorporate new teaching methods in their teaching practices.

The growth of pedagogical content knowledge (PCK)

It has been long believed that the accumulation of teacher knowledge lays the foundation for teacher growth. Here, teacher growth should not simply refer to the increased level of teacher knowledge but also the growth of practical teaching competence. Generally, PK and CK are solid knowledge bases that could be gained from reading relevant books or journals or attending lectures (Harris et al., 2009). However, the growth of PCK needs practical teaching enactment and reflection from teachers themselves or others (Clarke & Hollingsworth, 2002).

Nevertheless, teacher knowledge is not fixed; rather, it is dynamic, which means that teacher knowledge will change as a result of knowledge growth (Clarke & Hollingsworth, 2002). From Clarke and Hollingsworth’s (2002) perspective, it could be inferred that teacher change could be seen as a kind of teacher learning process, during which teachers are learners in some professional learning activities. They also argue that the key to teacher change or growth is that teachers should be active learners instead of passive knowledge receivers. Being active learners, teachers should have an awareness of a need to change, no matter change pedagogically or metacognitively or in both domains (Farrell, 1999). Following their arguments, it might be proper to say that teachers’ initiative to participate in learning activities would be a crucial stimulus to teacher knowledge change.

Any increase in knowledge that occurs in the PCK domain could be regarded as a demonstration of EFL teachers’ PCK growth. It appears that teachers’ pedagogical content knowledge could enable them to adaptively teach the content knowledge to different levels of language learners via pedagogical knowledge (Shulman, 1987). Besides, Hartman (2001) claimed that teachers’ metacognition changes in how to use pedagogical knowledge to organize the subject matter learning should be regarded as an essential indicator of their PCK growth. This could be applied to EFL teaching situations and EFL teachers’ PCK growth. Thus, EFL teachers’ PCK growth should be demonstrated in their teaching skill development and their metacognitive knowledge about how they should teach.

As mentioned before, Clarke and Hollingsworth (2002) suggested that teachers could have changes in teacher knowledge through social interaction in a teacher learning group by the support, guidance, and suggestions from other practitioners from the external domain. Here,

a learning community appears to act as the catalyst for teacher growth by providing new stimuli for their professional development, as demonstrated by social learning theory and the teacher growth model. Yet, not all EFL teachers could increase their PCK in collaborative learning and have professional growth in the same way.

To assess how EFL teachers have grown their PCK, some researchers carried out empirical studies. For example, Xie (2014) evaluated how two EFL teachers' PCK grew through an in-depth analysis of their lesson planning and teaching reflections. The study found out that EFL teachers' PCK growth is often promoted by reforms and changes. In another study, Li et al. (2021) invited forty Chinese EFL teachers to participate in a two-year teacher education program in longitudinal research. The results demonstrated that EFL teacher education programs could offer these teachers opportunities for PCK development, and some factors, such as well-designed courses and a professional learning community, could influence their PCK developmental trajectories. The analysis of focus group interviews with four particularly chosen participants also showed that teachers might have three sorts of professional growth trajectories, namely, surge-stabilized, linear-increased, and zigzag-progressed. Here, the surge-stabilized PD trajectory was summarized by two EFL teachers who had prior teaching-learning or practical teaching experience and whose PCK growth was accelerated by the teacher education program. Also, helpful mentoring support was mentioned by these two teachers. Comparatively, linear-increased and zigzag-progressed PD trajectories both were summarized from interviews with one EFL teacher. The story of the EFL teacher whose PCK growth trajectory is linear-increased illustrated that positive feelings and enjoyment boosted learning motivation, which made the continued PCK growth during the program. The EFL teacher whose PCK growth trajectory is zigzag-progressed claimed that negative emotions and the lack of subject matter knowledge influence the PCK growth pattern. However, the case analysis of three patterns of EFL teachers' PCK growth might not be persuasive as the sample size is too small. There might be more types of EFL teachers' PCK growth trajectories, and this would be worthwhile to be carefully studied in future studies.

Moreover, for each PCK component (knowledge of curriculum, knowledge of learners, knowledge of instructional strategies, and knowledge of assessment), the growth patterns appear to be distinctive (Li et al., 2021; Wongsopawiro et al., 2017). Wongsopawiro et al. (2017) attempted to categorize the pathways that led to changes in PCK according to IMPG and found that the different PCK growth pathways could form a complex "growth network" (p. 206). Two main findings are a) changes in the External Domain could create chain effects on the Personal Domain, and then Practice Domain and Consequence Domain, and b) the Consequence Domain is crucial to teachers' PCK growth. Wongsopawiro et al. (2017) also admit that no change might occur in any PCK component of teachers because of some personal and contextual factors. Moreover, this study only clearly identified two pathways, which is only the tip of the iceberg. More is waiting to be discovered and analyzed through later studies.

Factors that influence EFL teachers' PCK growth

Based on that, I would say that teacher collaboration in groups could promote EFL teachers' PCK growth. However, to what extent could teacher collaboration in groups work for EFL

teachers' PCK growth? From my perspective, three essential factors should be seriously considered when talking about how EFL teacher collaboration in groups supports PCK and teacher growth.

EFL teachers' initiatives

The first factor is the extent of the influence of the social environment in the teacher learning group. Admittedly, it is likely that the social interaction in teacher learning communities could offer new knowledge for teachers (Johnson, 2003), form a climate of learning for teachers (Bannister, 2015), and inspire teachers to have the motivation to participate in activities and think critically (Patton & Parker, 2017).

However, the reality is that some EFL teachers might not view teacher learning groups as an efficient professional development chance due to a myriad of reasons. As suggested by Hindin et al. (2007), some EFL teachers might be unwilling to share their views if they are not empowered by the collaboration. One potential reason might be that when teachers receive new messages, they might shield themselves from these signals instead of engaging themselves with these stimuli. Also, some EFL teachers are just accustomed to their routines and resist any changes in their teaching practices. As elaborated by Achinstein (2002), supporters of teacher collaboration may be overwhelmed by "their optimism about caring and supportive communities" (p. 421), and underestimate "the role of diversity, dissent, and disagreement in community life, leaving practitioners ill-prepared and conceptions of collaboration under-explored" (p. 421). Johnson (2003) also states that teacher collaboration would lead to an increase in teachers' workload, the loss of teacher autonomy, interpersonal conflicts, and factionalism. Therefore, EFL teachers' learning through social interaction does not necessarily mean that everyone would enjoy the social benefits of teacher learning groups, or that peer interaction would inevitably lead to EFL teachers' PCK growth.

The social nature of group learning could ensure that teachers have a platform where they could receive different perspectives (as external stimuli for their change in teacher knowledge). To ensure that every EFL teacher would be motivated to make internal, independent efforts of having an inner talk in teacher growth (Vygotsky, 1978), EFL teachers should take the initiative to actively engage in teacher collaboration. Several studies have also shown some positive outcomes of working actively in teacher learning groups:

- Change in teacher knowledge in the four domains of Clarke and Hollingsworth's (2002) teacher growth model (Thurlings & Brok, 2017).
- Sustained active learning (Gersten et al., 2010).
- Increased chances to integrate teacher learning into their daily teaching (Garet et al., 2008).

Based on what I have said whether the learning community could act as an effective social learning environment for EFL teachers is largely influenced by teachers' attitudes and beliefs toward teacher collaboration in groups. That said, an active EFL teacher would reach PCK growth in a learning community while an inactive EFL teacher might not be able to (Clarke & Hollingsworth, 2002).

A reciprocal mindset

Another essential factor would be whether EFL teachers have a reciprocal mindset in collaborative teaching learning groups. A reciprocal mindset is a kind of positive attitude towards teacher collaboration. It pushes the EFL teachers to consider that working together in a group should be beneficial for everyone. Having a reciprocal mindset facilitates EFL teachers to establish trust and mutual support between group members (Ostovar-Nameghi & Sheikahmadi, 2016). Rapport in a teacher learning group could greatly facilitate EFL teachers' PCK growth and create a positive culture for teacher development. However, if group members in an EFL teacher learning group only care about their own PCK development, teacher collaboration is less likely to fuel the teacher's PCK growth.

One major concern about a reciprocal mindset is that not every EFL teacher could benefit from expertise sharing. The IMPG mentioned by Clarke and Hollingsworth (2002) does not specify the tendency of teacher growth when the teachers in the learning group differ in their teaching experience. Take CELTA training courses as an example. Pre-service and in-service teachers both can attend the training courses and form mixed teacher learning groups. During the group discussion and reflection stage, in-service teachers may reflect differently from pre-service teachers even if they are reflecting on the same class observation. Generally, in-service teachers may notice more about teaching and students' learning issues while observing a class since they have more teacher knowledge and teaching experience than novice teachers. This is in line with what Berliner (2001) has mentioned that teachers who are experienced always have deeper and richer interpretations of real EFL teaching events. In contrast, pre-service teachers might provide unique and innovative insights about a lesson as they could view more from students' perspectives since they are students more recently (Sulaiman, 2021). In that case, all the teachers who have different teaching experiences could share valuable ideas and make contributions to their group learning. That is to say, EFL teachers with different teaching experiences would have different reflections in the External Domain, which could further promote the changes in their Personal Domain and Practice Domain.

EFL teachers' English proficiency level disparity is another personal factor that has a direct influence on the PCK growth of EFL teachers in the same group. Successful teaching often requires EFL teachers to have a high level of English proficiency. EFL teachers with a high English proficiency level are prone to have more professional confidence when using a communicative approach, thus enabling EFL students to be highly motivated (Demir, 2017). As a result, those teachers with a high English proficiency level would exhibit a better understanding of students' language development and issues. Comparatively, EFL teachers with a relatively low English proficiency level might not be familiar with English culture, though culture plays a vital role in language learning, and have difficulty in having accents like native speakers (Mohammed, 2018). In most teacher collaborative learning activities, in which EFL teachers with different levels of English proficiency are grouped together to discuss and reflect on EFL language teaching, mutual support becomes significant, especially for EFL teachers with a relatively low English proficiency level. Insufficient guidance and assistance would impede the PCK development of those EFL teachers with a low proficiency level. One possible way to bridge the knowledge gap in EFL teachers' collaborative learning is to establish a support system and build trust

between each teacher. To achieve that, EFL teachers' metacognition should switch to a reciprocal mindset as attitude could guide those teachers' behaviors and actions.

Reflective dialogues

Reflective dialogues in professional learning communities are often regarded as a kind of talks in which participants generally reflect on their experiences and exchange knowledge (Schaap & de Bruijn, 2018). The importance of emergence of reflective dialogues between EFL teachers in their group learning could greatly enhance their PCK in many dimensions (Li et al., 2021). As mentioned before, Schön (1983) come up with the notion called 'reflection-on-action', stressing engagement in the process in which practitioners share ideas and views, and supporting views about teaching and learning. Such an explanation implies that reflective communication could be an effective social learning process, which involves at least two-way communication between teachers. Singhasiri and Boonmoh (2011) carried out a study to test whether writing reflective journals and then having reflective discussions with their supervisors could help novice EFL teachers to be critical of their teaching practices and become problem-solvers. They found out that these novice teachers had reached great improvements in their teaching performance.

According to more recent studies by E. Chung (2021) and Hashim and Yusoff (2021), which both explored the use and effectiveness of reflective dialogues in teaching professional growth, reflective dialogues could facilitate teachers to increase PCK knowledge through changes in their personal domain, like beliefs and attitude. More specifically, Chung (2021) investigated the role of dialogic reflections among Asian secondary school English language teachers and indicated that it should be viewed as an approach to teacher learning as teachers could enhance their understanding from self-reflection and others' reflections. Huang et al. (2020) suggested that this learning process is always strategic and metacognitive. Similarly, Hashim and Yusoff (2021) claimed that reflective practices could help teachers to be more aware of their limitations and problems in teaching practices, thus prompting them to seek solutions, which may lead to PCK knowledge gains. Therefore, reflective dialogues play an important role in the success of EFL teachers' PCK growth in collaborative learning.

CONCLUSION AND RECOMMENDATIONS

After exploring how learning in groups promotes EFL teachers' PCK growth in the existing literature, a brief conclusion could be reached that though collaborative learning could promote EFL teachers' PCK growth in some ways, it is still difficult to discern whether collaborative learning could fully support EFL teachers' PCK growth. However, three factors: teachers' initiative to learn and share, a reciprocal mindset, and the effectiveness of reflective dialogues, are very likely to influence the extent and the speed of EFL teachers' PCK growth.

In literature about social learning theories for teacher learning groups, it seems that the opportunity to hear other EFL teachers' views about teaching practices could push EFL teachers to rethink and reimagine their lessons when confronted with different ways of thinking (Horn,



2005). The capability of taking in different voices in teacher learning groups could largely motivate EFL teachers' PCK growth. As suggested by the IMPG, teacher growth in learning groups does not require an abundance of external resources because teachers are one another's greatest resources. One key to being an active learner might not only lie in the absorption of knowledge but also in the ability to seek information. EFL Teachers who do not have sufficient teacher knowledge, especially PCK, might be too timid to assess experienced teachers' lessons, even though they have excellent points and unique perspectives (Patton & Parker, 2017). However, if they regard teacher learning groups as sharing communities instead of an assessment, they could harvest more from collaboration apart from their growth in PCK.

Last but not very least, this article wants to share some tips for EFL teachers and EFL trainers about how to maximise EFL teachers' PCK development. First, PCK growth needs to have some practical or cognitive changes in their understanding of pedagogical knowledge and subject knowledge by reflection and enactment. However, if EFL teachers are not active learners in collaborative groups and are reluctant to receive these changes, group learning might be a vain attempt for their PCK growth. Instead, to maximize the effectiveness of teacher learning groups, EFL teachers should take the initiative and socially, behaviorally, and cognitively engage in group sharing and actual practices. Second, EFL teachers should have a reciprocal mindset and aim to establish mutually beneficial relationships in groups and be open to all thoughts and ideas. Third, think critically about any issue rather than just focusing on one aspect of a problem.

There are still some issues to consider for future studies. The assessment of EFL teachers' PCK growth should be a critical area that needs more exploration as more sounding evidence is needed to support the actual development in the PCK domain. Also, the potential changes in the four domains in the IMPG might be triggered by more trivial stimulations that are not identified by current researchers. For example, EFL teachers' positive facial expressions might be a kind of emotional encouragement that could encourage more teachers to reflect and share, while their indifferent attitude might prohibit them from expressing their true feelings.

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