

An Investigation of Turkish EFL Teachers' Development through an Online Professional Development Program

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Abstract: Due to the challenges pertaining to online professional development (OPD), there has been a recent shift in OPD from the one-shot online workshops, trainings and webinars grounded in traditional professional development models (Prestridge & Tondeur, 2015) to the online professional learning communities designed through constructivist pedagogies (Whitehouse, McCloskey, & Ketelhut, 2010). Addressing this change in the OPD paradigm, this qualitative study set out to investigate the impact of online lesson study as an unexplored type of OPD on a group of Turkish EFL teachers' development. In the 2017-2018 fall term, 4 EFL teachers from different schools volunteered to engage in an online lesson study procedure for 13 weeks. For online lesson study procedure, Dudley's (2015) version of Lesson Study (LS) was adapted to the online medium with the inclusion of some synchronous and asynchronous tools. Within that procedure, teachers worked online collaboratively to set goals for student learning and co-planned research lessons that target these goals. One of the teachers taught the lesson in his/her own classroom and other teachers watched the video recording of the taught lesson. In an online post-lesson meeting, they reflected on the data to improve the lesson and taught the revised lesson in the same or a different teacher's classroom (Lewis, 2009). Within the scope of this study, the participating teachers completed this process three times which constituted three LS procedures in total. In addition, the teachers also participated in six webinars related to English language teaching as part of a Marie Curie Project. The video-recordings of pre-lesson and post-lesson discussion meetings, video-recordings of the taught lessons, lesson plans, teacher posts in online platforms and teacher interviews composed the data collection tools. But for the sake of this study, interview data from the first LS cycle are reported here. The results of the preliminary analysis show that an online professional development program that included a combination of webinars and online lesson study procedure led to perceived cognitive changes in a group of Turkish EFL teachers. These changes were concerned with increased technological knowledge, increased self-appraisal and self-reflection, development of language proficiency and increased knowledge of instructional strategies.

Keywords: Online lesson study, EFL teachers, webinar, online professional development

1. Introduction

Approaches to professional development (PD) have transformed in time due to 'paradigm shifts in teacher learning' (Hung & Yeh, 2013). 'Earlier conceptions of teacher change', which was built on a 'training paradigm' implied that teachers have deficits in their knowledge and skills and these deficits can be compensated through one-shot workshops or trainings (Clarke & Hollingsworth, 2002). However, these 'one-day workshops' or 'short-term courses' (van Es, 2012) mostly made few contributions to 'teachers' knowledge base or identity' (Flint, Zisook, & Fisher, 2011) due to the short duration of the courses, lack of ongoing support (Cimer, Çakır, & Cimer, 2010) and lack of relationships with colleagues for exchange of ideas and practices (Wood, 2007). Compatible with the more recent paradigms of teacher PD, lesson study originated in Japan early in the 1900s

and became popular before the mid-1960s as a commonly used form of professional development throughout the country (Fernandez & Yoshida, 2004). In 1999, LS started to receive worldwide attention with the writings of US scholars Stigler and Hiebert who pointed at Japanese students' superiority in international tests compared to American students and their counterparts in other countries (Pang & Ling, 2012). In lesson study, groups of four to six teachers come together to identify an overarching learning goal for their students (e.g. such as being able to speak English fluently for language learners). These teachers collaboratively produce a series of research lessons that address these goals and also particular difficulty areas for their students. Planning the research lesson, teachers benefit from various sources of knowledge including curriculum materials, relevant research literature provided by outside experts and any other resources. Once the lesson is collaboratively designed, it is taught by one of the teachers whereas other teachers act as observers. During the observation, teachers focus on student learning and collect relevant data (Dudley, 2015). Later, teachers meet for a post-lesson discussion evaluating and critiquing the lesson and revise the lesson based on the joint efforts of the teachers (Hiebert & Stigler, 2000). The revised lesson is taught by another teacher while the lesson is again observed by the remaining teachers. During the second post-lesson discussion, teachers once more reflect on the lesson evaluating whether how students learnt. They also provide suggestions related to the improvement of the lesson. In the final stage of LS, the whole lesson study procedure is shared with colleagues in the same or other schools 'through a seminar or published materials' (Pang & Ling, 2012).

Review of LS literature shows that research into LS has been conducted in numerous countries including US (e.g. Lewis, 2006), UK (e.g. Cajkler, Wood, Norton, & Pedder, 2014), Australia (e.g. Hollingsworth & Oliver, 2005), China (e.g. Yang, 2009), Indonesia and Malaysia (e.g. White & Lim, 2008) amongst many other countries (Doig & Groves, 2011). Despite a huge world-wide interest in LS, this stream of research has not paid particular attention to an online version of lesson study so far. Online lesson study was only mentioned in Yursa and Silverman's (2011) and Sharma and Pang's (2015) studies. Yursa and Silverman (2011) implemented an online lesson study with teachers enrolled in a graduate program in mathematics education. Similarly, Sharma and Pang (2015) implemented an online lesson study with elementary classroom teachers enrolled in a graduate course.

Similar to the advantages of online PD over face-to-face PD, online lesson study holds great potential for teachers' professional development compared to original LS. Overcoming 'logistically challenging' aspects of lesson study is one of the key affordances (Yursa & Silverman, 2011). Getting teachers from the same or different schools to gather at particular times for research lesson planning, live observation of lessons and discussion meetings can be quite challenging. With the use of various synchronous and asynchronous communication tools, online LS can serve to provide teachers with higher degrees of communication and interaction and with increased time for reflection and dialogue (Sprague, 2006). Through online LS, teachers can also get easier access to teachers from different schools and field experts (Blitz, 2013). Accessing a large body of knowledge and resources with few 'time, space and pace' limitations is also a bonus. On top of these, online LS can help the development of online PLCs (Lewis & Perry, 2015) as a relatively recent concept in online education (Wideman, 2010). Despite several affordances of online lesson study, the literature is mute on its impact on teachers' knowledge base and development. This study, therefore, investigates the reported cognitive changes of Turkish EFL teachers as they participate in online lesson study procedure and webinars.

2. Literature Review

2.1 Lesson Study

A review of literature shows that LS presents a wealth of benefits for teachers' PD. These include the development of teacher collaboration and a professional learning community, deepened focus on student learning among teachers, the development of teacher knowledge and practice and consequently the improvement of teaching and learning (Cajkler, Wood, Norton, Pedder, & Xu, 2015; Xu & Pedder, 2015). In regards to teacher collaboration, lesson study is reported as a professional development activity that allow teachers to engage in joint work during the planning,

teaching, observing and critiquing of research lessons (Lewis, Perry, & Hurd, 2009), in free discussion and challenging of ideas and assumptions related to teaching and student learning (Lee, 2008) and to build collective knowledge as an outcome of these activities (Lewis, Perry, Hurd, & O'Connell, 2006).

The development of teacher knowledge and practice (Cajkler & Wood, 2016) is apparent in studies that show improvements in teachers' subject content knowledge, pedagogic knowledge, pedagogic content knowledge and knowledge about pupils (Xu and Pedder, 2015). For example, Clivaz and Ni Shuilleabhain (2017) analyzes the types and levels of mathematical knowledge for teaching developed as a result of LS activity. Lewis and Perry (2015) report improved outcomes related to mathematics teachers' subject content knowledge (of fractions). In addition to these, teachers' improved knowledge of subject content, pedagogy, pedagogical content and student thinking/learning were also reported in other studies (e.g. Cajkler & Wood, 2016; Lee, 2008), which substantiate the role of LS in improving teachers' knowledge and practice in different domains.

It arises from the synthesis of all studies reported so far that all LS studies were conducted through a face-to-face medium only except for two (Sharma and Pang, 2015; Yursa and Silverman, 2011). Yursa and Silverman (2011) implemented an online lesson study with teachers enrolled in a graduate program in mathematics education. For collaboration purposes, they used only synchronous tools and instead of live observation, they used video-recording. In their study, they concluded that although online LS served effective for the professional development of these teachers, it was not appropriate to directly transfer LS into an online environment (as cited in Sharma & Pang, 2015). Similarly, Sharma and Pang (2015) implemented an online lesson study with elementary classroom teachers enrolled in a graduate course. Unlike the original LS procedure, they asked each participating teacher to implement and video-record the collaboratively designed lesson in their own classes and post three video-segment that showed striking 'aha' moments. In their analysis of teachers' 'pedagogical movements' during the LS process, they found that teachers experienced 'growth in their knowledge of assessment and diagnosis' and gained instructional skills.

2.2 Online Professional Learning Communities (OPLCs)

The advent of internet and mobile technologies has opened up new venues for the development of online PLCs. The advantages of online professional communities are numerous especially in handling time and space limitations associated with face-to-face professional communities. For instance, teachers in an OPC find the opportunity to access teachers with similar interests and professional development goals from different schools or even districts which may not be possible otherwise (Lock, 2006). It is also through the use of online tools that the interaction and communication of these teachers can be promoted and sustained over time. In addition, among a panoply of other advantages, teachers can get prompt, even daily feedback and guidance from other teachers and experts in their application of new pedagogies through OPLC (Nistor, Baltés, & Schustek, 2012). Despite these advantages, literature also identifies particular challenges related to OPLCs and puts forward a set of design considerations for creating well-functioning OPLCs.

Research shows that one of the keystones of successful OPLCs is developing clear and relevant community purposes and goals shared by teachers (Keown, 2009). Without a clear purpose and relevance to teachers' immediate needs and teaching contexts, teachers are very likely to leave OPLCs (Baek & Barab, 2005). In a large OPLC called the Inquiry Learning Forum (ILF), for example, designers built smaller groups within the large community where teachers with an interest in similar topics, or those teachers with similar teaching experience or work contexts, could work together to meet their common needs. The findings of their study showed that these small teacher groups were able to engage in meaningful and extended dialogue related to improving their practice (Moore & Barab, 2002). Another challenge is concerned with the building of mutual trust among the community members so that they feel comfortable with engaging in critical dialog with their peers (Lock, 2006). With the absence of face-to-face contact in OPLCs, teachers become more reluctant to share their ideas or practices with the online peers and thus critical dialog remains only at a superficial level (Barab, 2006). 'Strong leadership and facilitation' strategies (Keown, 2009) are needed here to help teachers feel welcomed by the group and get

started with the group activities. ‘Providing a rich resource base’ is another strategy recommended by Wideman (2010, p.14), which included the provision of research summaries, ‘pedagogical and technical guides’, tutorials, ‘classroom videos’, teaching artefacts (e.g. lesson plans, multimedia materials), ‘external experts’ and reference to other external sources. Teachers should be able to share documents, co-edit these documents and co-develop new materials. Classroom videos can also be shared to foster discussion and reflection amongst the teachers (Moore & Barab, 2002). Wideman (2010) also suggested providing a blend of synchronous and asynchronous tools in OPLCs in order to benefit from their different affordances. Research shows that there should be ‘experienced facilitators’ to ‘moderate group activities’ for creating a truly ‘knowledge-sharing environment’ (Blitz, 2013, p.11). This study is grounded in the assumption that online lesson study, when designed in light of the critical features of effective OPLCs, can serve as a promising model for teachers’ professional development.

3. Methodology

3.1. Research Design

In this study, case study is adopted as a qualitative design method. Case study allows for the exploration of ‘a bounded system’ (a case) over time through ‘detailed, in-depth data collection’ including multiple data sources (e.g. interviews, observations, documents, etc.) (Creswell, 2007). The unit of analysis in the study consists of the online lesson study group which included four teachers. To delve into teachers’ development, the cognitive changes through online lesson study procedure and webinar participation is examined with the following research question:

-What are the reported changes in a group of Turkish EFL teachers’ cognition as a result of webinar and online lesson study participation?

3.1 Participants

The participants of the study included four Turkish EFL teachers from different high schools in Zonguldak city, Turkey who volunteered to take part in the study. Researcher visited various high schools, introduced the study to EFL teachers in these schools and only those teachers who accepted to do all of the assigned activities were included in the study. Therefore, convenience sampling was used as the sampling method. Background information about the teachers is presented in Table 1 below:

Table 1

Background Information about Teachers

	Gender	Year of Experience
Mary	Female	8
Jane	Female	7
Sally	Female	14
Kathy	Female	15

3.2 Overview of the Online Professional Development Program

During a timeframe from November 2017 to January 2018, the participating teachers engaged in two activities for their professional development by attending (1) webinars and (2) online lesson study procedure. Webinars were organized as part of a Marie Curie Project that aims for language teachers’ professional development in Europe and the topics were identified based on a nationwide needs analysis study conducted across Turkey (Özköse-Biyik & Uslu, 2014). The actual webinars, which were to be delivered to EFL teachers in Turkey in the 2017- 2018 spring semester, were piloted with the participants of this study in the fall semester. The webinar topics were not only

limited to innovative methods in language teaching but also web 2 tools and mobile technologies related to language teaching and learning.

As the other component of the online PD program, the participants engaged in online lesson study procedure for a period of 13 weeks. Dudley’s (2015) version of lesson study was chosen among different versions of LS as a baseline for designing LS group activities and this version was adapted to the format of online lesson study. One adaptation was that instead of three research lesson cycles, two cycles were used as a common practice in various LS studies since two cycles are considered as enough for testing out the revised lesson and evaluating how it works (Cerbin & Kopp, 2006). As another adjustment, teachers did not have real-time observation due to time and space hindrances; rather they watched video recordings of classroom implementations. Finally, owing to the use of online medium for teachers’ PD activities, some synchronous and asynchronous tools were incorporated into the design of the online lesson study procedure. The live meetings were held in WizIQ, which allowed participants to use camera, audio, chat and whiteboard for peer interaction and collaboration. Google Docs was used to co-create the lesson plan and the recordings of the taught lessons were shared with the teachers via Google Drive. In the live sessions, teachers exchanged ideas while doing joint-lesson planning, held post-lesson discussions and revised the taught lesson based on student outcomes for the second implementation. Later, the revised lesson was taught in a different class of the same or different teacher. Finally, teachers evaluated the revised version of the lesson in the post-lesson meeting. This process was completed 3 times throughout the study. Edmodo was used for asynchronous discussion so that teachers would leave comments to the posts sent by the researcher about the lesson planning and classroom implementations.

3.3. Data collection

Although the original study included a wide variety of data sources (e.g. the video-recordings of pre-lesson and post-lesson discussion meetings, lesson plans, teacher posts in Edmodo, etc.), the findings of only interview data were presented here due to the space limitations. Teachers were interviewed at the end of each LS procedure- at the end of the second post-lesson discussions. In the interviews, ‘Informant style’ of interview strategy was used while the interview questions were taken from Cjakler et al.’s (2015) study. Interviews were made in the participants’ native language to create a stress-free atmosphere.

3.4 Data analysis

As the first step of data analysis, all interview data were transcribed verbatim. To look for statements of teacher change in the data, the indicators of teacher change proposed by Justi and Van Driel (2006) were used to code the data (See Table 2). Following the coding process, to identify recurrent themes, the researcher worked across the data set from the interviews and grouped the recurrent instances into categories (Wilkinson, 2004).

Table 2

Statement Samples

Statements indicating changes in cognition	I have learnt that, I know how to, I understood why, etc.
Statements indicating changes in attitude or beliefs	Now I can, I believe now that, etc.
Statements indicating changes in perceived or intentional behavior	Now I am doing things differently, I used to do but now I am doing..., I tend to do more....

4. Findings

The findings of the study showed that there were changes in teachers' cognition, in their attitudes and beliefs and also in their perceived or intentional behavior following their participation in webinar and online lesson study procedure. These changes were presented under the common themes derived from the initial coding process.

Increased technological knowledge

All four of the teachers indicated that they increased their technological knowledge thanks to the new technologies introduced in the webinars. The changes were not only in cognitive level but some teachers had immediate use of these technological tools in their classes.

I gained new ideas related to new methods in language teaching especially related to the use of technology in education. For example, in the webinars, I learnt about kahoot, qr codes, etc., for the first time. These gave me an awareness of my classroom implementations. I thought like 'Can I use these in my classes? If yes, how does it happen? I developed the idea of using them in my classes. (Sally)

The webinarian in the fourth webinar covered QR codes and talked about treasure hunt game as a classroom activity. I really wondered about it and I wanted to see how it works. Therefore, I prepared 5 questions on likes/dislikes. I told the children to download QR code reader and that I would post some QR codes on the walls in the corridor the following day. In this way, it would be both fun for the students and a novelty in my classroom teaching. (Kathy)

One of the teachers even developed an awareness of the pedagogical constraints of a technological tool as seen below:

Kahoot is a very nice website if it is used appropriately. However, I don't think that the use of Kahoot ends in learning on part of the students. Yes, it is fun but I am not sure if it helps them to learn. I don't understand if it is instant learning or memorization that takes place when they work with Kahoot. But it is really the case that it takes their attention since it is technological. (Jane)

Development of language proficiency

Some of the teachers indicated that the webinars helped them to develop their language proficiency and motivated them to take more action to this end.

We speak English in webinars. I realized that I forgot to speak in English. We use very simple English at schools. We simply give instructions in English but not more. However, I remembered speaking English in the webinars. Really, we don't have anyone to speak English with. You know our students' levels so we can speak only limited English. Therefore, we don't have any opportunities for improving ourselves. Thanks to these webinars, I improved myself a lot. I internalized the process a lot. Even my husband is surprised by this since I also started to speak English at home. (Mary)

I have been working for eight years and of course this has led to some kind of psychological fatigue on part of me. This experience has been so great. I feel myself so happy. Believe me, I look into the websites you've suggested to improve my language skills. I do it for my development and I do reading and listening in English. I have never done anything before to improve myself. With your help and that of our friends, we learnt lots of new things. (Jane)

Increased self-appraisal and self-reflection

Common to four of the teachers, it was seen that teachers developed increased self-appraisal and self-reflection in lesson implementations and the following post-lesson discussions as given below:

I have realized that there are many overlaps between our lesson planning and implementations and my own teaching. Sometimes during my teaching I used to think if I lagged behind my colleagues since I started to teach after nine years of interval. I wondered if I had some deficiencies. However, as far as I see from the other teachers, I feel that this is not the case. This made me really happy. (Kathy)

In online lesson study procedure, we watched ourselves as we taught. We had the opportunity to look at our teaching with a critical eye. Is it better to do this on your own or together with other people? This process helped us to better assess ourselves. (Sally)

Watching the video recordings of the taught lessons, I have seen that teachers used L2 in their teaching nearly at all times. They also told me in the online meetings to continue speaking in English since I already prepared my students for that regardless of their proficiency levels. This motivated me a lot and I started to think of using English more in class. (Jane)

Increased knowledge of instructional strategies

All four of the teachers stated that joint-lesson planning and the following lesson implementations helped them to develop new knowledge of instructional strategies related to teaching language skills as reported below:

In our lesson study implementation, I realized how well it works to teach vocabulary with the use of visuals. If we had not cocreated the lesson plan, I would not have thought of preparing visuals for that lesson. I would have just given the words to the students and that's it. (Kathy)

During lesson planning meetings, I have seen how we can integrate language skills and use many different activities in a lesson. In our books, such things are limited since grammar is given more space. In lesson implementations, we have added speaking activities to grammar lessons. In the books, there is a plan and when you follow that plan, the lesson becomes very boring and you mostly focus on grammar. But today one of the teachers implemented a reading lesson and we also touched on grammar a little bit and went on with a speaking activity. That was very nice. (Mary)

The same teacher also mentioned the insights she gained from another teacher regarding teaching reading while watching the recording of a co-designed lesson as presented below:

I learnt something about teaching reading from one of the teachers in my group. I realized that the teacher simplified the comprehension questions when the students had difficulty with answering. In this way, she helped the students answer the questions by leading them. This drew my attention and I decided to ask questions through simplification. (Mary)

One of the teachers stated that lesson implementations got her to reaffirm her belief regarding teacher role in language classes:

Now, I see that nothing is impossible. Motivation is very important. Yes, since it is a language class, we need to act like an animator in the class and as far as I see from teachers' classroom implementations, the teachers are very eager in this respect. They

also talked about in the online meeting yesterday. Also, when I was a student, I did not have any teacher who was different from an ordinary teacher. I have always been taught in the traditional way, therefore I take the easy way in my classes. But I realized that being active motivates the students a lot. In my lessons, I started to be more active so that my students would also be active. (Jane)

5. Discussion and Conclusion

The preliminary results of the study showed that an online professional development program that included a combination of webinars and online lesson study procedure led to perceived cognitive changes in a group of Turkish EFL teachers. These changes were concerned with increased technological knowledge, increased self-appraisal and self-reflection, development of language proficiency and increased knowledge of instructional strategies.

Teacher reports indicated that webinars helped teachers to develop their technological know-how and learn about the recent Web 2.00 tools that can be integrated into language classroom. Some of the teachers even reported to use these tools in their classes in an immediate fashion. Earlier research also substantiates this finding by showing that webinar participation by EFL teachers enables them to try out new techniques in their classrooms (e.g. Mai & Ocriano, 2017).

Due to the constructivist design of the OPD program (Whitehouse et al., 2010), the participating teachers found the opportunity to share their 'expertise' and 'ideas' (Gray & Smyth, 2012), engage in collaborative work by trying out new practices (Yang & Liu, 2004) and gain sustainable support in their implementations (Dede, Ketelhut, Whitehouse, Breit & McCloskey, 2009). Additionally, it was evident in interview data that peer-to-peer learning came about as a result of joint lesson planning, lesson implementations and post-lesson discussions. This finding also resonates with the previous work showing that peer observation and feedback in lesson study (Nami, Marandi & Sotoudehnama, 2016) enables the creation of a 'culture of peer learning' (Lee, 2008), promotes collaborative inquiry and helps teachers to build collective knowledge (Lewis, 2006). Teachers were also able to display increased self-appraisal and self-reflection since they had the opportunity to reanalyze their teaching and evaluate its effect in the classroom (Lewis & Perry, 2015). Increased levels of self-reflection were also seen in Robinson and Leikin's (2012) and Rick's (2011) study showing that processes of reflection acted as a catalyst for teacher change during LS process. It can be said that with the integration of synchronous and asynchronous tools into the design of OPD, teachers were able to exchange ideas, co-create lesson plans and reflect on the efficacy of the co-designed lessons as in traditional lesson study procedure (Blitz, 2013).

The finding pertaining to the development of increased knowledge of instructional strategies during online lesson study procedure is also in line with previous research which shows the development of teacher knowledge and practice through LS (Cajkler & Wood, 2016). Many studies show improvements in teachers' subject content knowledge, pedagogic knowledge, pedagogic content knowledge and knowledge about pupils as a result of LS procedure (Xu and Pedder, 2015). For example, Clivaz and Ni Shuilleabhain (2017), analyzes the types and levels of mathematical knowledge for teaching developed as a result of LS activity. Lewis and Perry (2015) report improved outcomes related to mathematics teachers' subject content knowledge (of fractions). In addition to these, teachers' improved knowledge of subject content, pedagogy, pedagogical content and student thinking/learning' were also reported in other studies (e.g. Cajkler & Wood, 2016; Lee, 2008; Lewis, 2006; Lewis, 2009). Although the development of technological pedagogical content knowledge (TPACK) is not evident in its full form in the existent data, the increase in 'teachers' knowledge of technology' and 'technological pedagogical knowledge' appears as in Nami et al.'s (2016) study in which lesson study was used to foster teachers' learning about CALL (p.658).

In this study, only the preliminary findings of a broader study is presented, therefore, the study has many limitations. Firstly, although a variety of data collection tools were used in the original study, only interview data were analyzed in this manuscript due to reasons of space. Secondly, this study only includes teacher self-reports and does not look into how and in what degrees teacher change occurred. In the original study, this will be examined with the use of

Interconnected Model of Teacher Professional Growth to investigate the processes of teacher learning through online lesson study and webinar participation. Further research can address how and to what extent the proposed changes in teacher cognition is reflected in teachers' classroom teaching subsequent to the completion of the online PD program with the use of observation data.

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