

EXPLORING THE PRACTICAL IMPACTS OF RESEARCH ENGAGEMENT ON ENGLISH LANGUAGE TEACHING: INSIGHTS FROM AN ONLINE COMMUNITY OF PRACTICE

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ABSTRACT

Practitioner research has been gaining prominence as a means for professional development (PD) since it provides teachers with opportunities to reflect on, comprehend, and transform their practices. However, there is a dearth of research that examines how teachers learn in online communities established to mentor teachers across the world to learn how to do research for PD. This study explores teacher researchers' use and integration of their research experiences in their teaching as well as uncovering how they develop professionally. To this end, we contacted and interviewed 5 international teacher researchers who participated in our 5-week online training in 2021 within the scope of TESOL's Electronic Village Online (EVO) and shared the preliminary findings. Interviews lasted around 50 minutes during which teachers reflected on their research experience in retrospect and self-reported how this influenced and informed teaching. Transcripts are analyzed thematically through the NVivo software. Findings indicate that our participants reported practical improvement in their instructions not only during but also after the research. They also highlighted how research implementation with their students created opportunities to revisit their own beliefs and the corresponding practices. The study has implications for in-service teacher educators and research mentors who provide online research-driven PD.

KEYWORDS

Practitioner research, professional development, online communities of practice, teacher practical knowledge

HOW TO CITE

Dikilitas K., Gokturk Saglam A. L. (2023) 'Exploring the Practical Impacts of Research Engagement on English Language Teaching: Insights from an Online Community of Practice', *Journal on Efficiency and Responsibility in Education and Science*, vol. 16, no. 1, pp. 46-54. <http://dx.doi.org/10.7160/eriesj.2023.160105>

Article history

Received

August 31, 2022

Received in revised form

November 26, 2022

Accepted

February 24, 2023

Available on-line

March 31, 2023

Highlights

- An online CoP functions as a learning space for teachers who want to learn to do research facilitated by research mentors.
- Engaging in teacher research in own classrooms influences teachers' instructional practices since it provides contextual insights.
- Teacher research engagement appears to lead to research-driven practical change and research-driven professional development.
- Teacher researchers tend to substitute, or modify, re-define, or enrich their teaching based on the outcomes of their research.

INTRODUCTION

There is growing interest in facilitating professional development of teachers through online educational communities of practice (e.g., Eshchar-Netz and Vedder-Weiss, 2020; Feldman, 2020; Lantz-Andersson et al., 2018) since they are flexible and accessible, and they provide geographically dispersed teachers with opportunities of virtual collaboration (Dille and Røkenes, 2021). It is argued that online communities of practice are

considered a key form of professional development due to sustained interaction and collaborative learning between groups of teachers (Lantz-Andersson et al, 2018; MacPhail et al., 2014; Murugaiah et al., 2012).

Practitioner research, also associated with teacher research and action research, is reported to influence professional learning in various ways: leading to greater teacher autonomy (Cabaroğlu, 2014; Wang and Zang, 2014; Wyatt, 2008),

increasing self-efficacy beliefs, cultivating teacher researcher identity (Dikilitaş and Çomoğlu, 2022b; Edwards and Burns, 2016; Dikilitaş and Yaylı, 2018), improving the understanding of learner needs (Burns, 2014; Dikilitaş and Yaylı, 2018; Wyatt and Dikilitaş, 2016), developing research skills (Burns, 2014; Wyatt, 2011) as well as prolonging the process of engagement in professional learning (Edwards and Burns, 2016), and enhancing practical knowledge (PK) for teaching (Burns, 2014; Dikilitaş and Yaylı, 2018; Wyatt and Dikilitaş, 2016). However, despite the prevalence of adopting an inquiry approach to research as a means for language teacher professional learning, there is a dearth of research that examines how teachers learn in online communities established to mentor teachers across the world to learn how to do research for PD. We address this gap in our study by exploring how teacher researchers in such a community interact with others to reflect on the PK development enacted by their own research experiences and what specific practical changes research led to in their teaching.

LITERATURE REVIEW

Professional learning of teachers is considered as an active, collaborative, constructive and context-bound endeavor rather than an individual pursuit (Murugaiah et al., 2012). Sustained interaction between groups of teachers is seen as an important form of professional learning (Lantz-Andersson et al., 2018). These views resonate with the conception that learning is a socially constructed process which occurs within a collaborative professional learning environment through sharing knowledge and experience on practice thus leading to learning from others (Dikilitaş, and Çomoğlu, 2022a; Lave and Wenger, 1991; Vangrieken et al., 2017; Vygotsky, 1978). Lave and Wenger (1991) propounded the concept of Communities of Practice (CoPs) to refer to groups of people who come together to share their practice and learn ways for development through social, collaborative, and regular interaction. These groups are characterized by ‘their social relationships and commitment to a shared understanding’ (Gilken and Johnson, 2021: 158), and they gather in different social contexts to engage in meaningful activities that lead to deep learning (Lave and Wenger, 1991). Teacher networks are formed for the purpose of PD and sustained social interaction that facilitates collective construction of new understandings of pedagogy and different forms of professional knowledge including content-specific knowledge and new technologies that cater for their needs (Jones and Dexter, 2014; Vangrieken et al., 2017). It is argued that ‘when a conducive collaborative environment for communication is created, the features lead to a change in knowledge, and skills and ultimately to change in practice emerge’ (Murugaiah et al., 2012: 164). Gholami and Husu (2010: 1520) remark ‘teachers generally acquire most of their knowledge during their interaction with a variety of systems. This knowledge is then converted into practical knowledge in order to meet practical and situational demands of teaching’.

According to Elbaz (1983), practical knowledge (PK) comprises knowledge of self, subject matter, curriculum development, instruction, and the milieu of teaching. She conceptualized how teachers use their PK as situational, social, personal, theoretical, and experiential, asserting that feelings, needs, beliefs, and values

of teachers and intertwined with their theoretical knowledge and experience to transform their practice (Elbaz, 1983). Clandinin (1986 cited in Golombek, 1998) expanded Elbaz’s conceptualization through ‘personal practical knowledge’ which includes personal philosophies (teacher beliefs/values based on experience), metaphors (the way teachers think about teaching and act), rhythms (teacher knowledge of cyclical patterns of school), and narrative unity (grounding teacher beliefs/values within the classroom context). Clandinin (1992: 125) remarked personal practical knowledge is composed of ‘a kind of knowledge carved out of, and shaped by, situations; knowledge that is constructed as we live out our stories and retell and relive them through the process of reflection’. Similarly, Golombek (1998: 447) defines personal practical knowledge as ‘an affective and moral way of knowing that is permeated with a concern for the consequences of practice for both teachers and students’ since it informs teacher practice through filtering and reconstructing experience to fulfil needs of a teaching situation. Thus, teachers’ PK guides their actions when they consider what to do in a particular situation (Gholami and Husu, 2010). In our study, we based our understanding of PK on Elbaz’s framework and defined teachers’ practical knowledge as the knowledge, values, beliefs, and skills that guide teaching practices.

Wyatt and Borg (2011) argue that PK can be developed by teachers when they are encouraged to reflect on their initial understandings of their teaching and current teaching practices, whereby they can construct new ideas through experimentation of practice. Drawing on this, we argue that research is the key potential learning practice for teachers to generate PK since research leads to new ways of teaching as research activities that are used during teaching. PK is generated when teachers integrate research activities as teaching activities as an organic part of the instructional process rather than a separate and additional one for the sake of research. It is this integration of teaching and research that leads to development of research. It is argued that teachers need to ground their teaching practice in research insights and outcomes to transform teacher knowledge into professional knowledge (Ion and Iucu, 2014). Thus, teachers’ PK should be linked to knowledge from research (Wieser, 2016).

Several research studies have argued that there is a strong relationship between conducting research and teacher change in PK of teaching (Burns, 2014; Dikilitaş and Yaylı, 2018; Wyatt and Dikilitaş, 2016). Wyatt (2011), for example, reported on the development of ELT teachers who researched their own practice within the scope of a three-year BA TESOL program and concluded that teachers conceived various benefits of research including development of PK by way of development of self-confidence, autonomy, and empowerment. Tanış and Dikilitaş (2018) explored the role of action research in Turkish EFL teachers’ beliefs, and compared action research, as a transformative model, with other forms of transmissive and transitional professional development. Findings indicated that the PD beliefs of the teachers who conducted research into their own practice displayed variety in comparison to teachers ‘engaging in transmissive PD models in terms of access to and reflection on knowledge’ (Tanış and Dikilitaş, 2018: 27). Teacher researchers prioritized collaborative and inquiry-based PD processes since they encouraged teachers to reflect on their

experiential knowledge. Research engagement, with its bottom-up orientation, was conceived as highly effective for fostering teachers' practical knowledge.

Van Schaik et al (2019) explored approaches to knowledge co-construction of 39 teachers in teacher learning groups using different sources including PK of colleagues, collaborative research activities and educational research literature. Research findings indicated that teachers demonstrated a changed understanding of the role of the teacher in the classroom towards more student-oriented teaching and differentiated instruction based on the needs of their learners. The teacher learning groups which adopted a research-based approach acquired a combined knowledge of how to conduct research and pedagogy. It was concluded that research literacy and skills gained both by conducting and reading research can inform practice.

However, there is a scarcity of research on how teachers construct knowledge in professional learning communities identifying what kind of changes occur in teaching (Van Schaik et al, 2019) and whether and how community members link research and practice (Margalef and Pareja Roblin, 2016). Therefore, this study explored the impacts of ELT teachers' research engagement within an online CoP in relation to their classroom practices and their PD. The interaction between research engagement and teachers' PK is analysed to respond to the following research question: What is the impact of research engagement on the classroom practices of English language teachers and PD?

METHODOLOGY

This study adopts phenomenology as the qualitative research design methodology. Phenomenology epitomizes the meanings constructed by several individuals from experiencing a single phenomenon 'to reduce individual experiences of such phenomenon to a description of the basic 'essence' of that experience, by creating a composite description of that experience for all the participants' (Heigham and Croker, 2009: 15). In the current study this includes understanding and representing the impact of research engagement experience of teacher researchers within an online community of practice upon their practice.

Context

The present study is conducted in an online CoP designed as research-based language teacher education course within the scope of TESOL's EVO. Since 2016, the session entitled Classroom-based Research for PD adopted the CoP approach and brought teachers who are interested in research as a means for PD together in an online professional learning community (Göktürk-Sağlam et al., 2018). Instructional design was based on the Community of Inquiry (CoI) model postulated by Garrison et al (1999). Participating teachers were also mentored based on this framework (Göktürk-Sağlam and Dikilitaş, 2020). Thus, in a collaborative, constructivist approach, learning in the online CoP was facilitated by the interaction of social, cognitive, and teaching presences (Arbaugh et al., 2008) and guided by the mentoring presence (Göktürk-Sağlam and Dikilitaş, 2020). Online training utilized three core features of a CoP including mutual engagement, a joint enterprise, and a shared repertoire (Wenger, 1998). Teachers worked on the course content

collaboratively and engaged actively in the weekly tasks through (a)synchronous platforms. According to Wenger (1998) when members actively participate in a CoP, they associate 'doing' with 'being' which in turn impacts their identity. In a similar vein, this happens when the teachers discuss content of the training through posts on discussion boards and share their experiences of research engagement. Collective interaction and mutual engagement within the community lead to 'doing' which then creates 'being', bringing about an impact on both teacher and researcher identity. The joint enterprise refers to being a part of an online community of teacher researchers who are in pursuit of conducting research and sharing research findings within the community. Using the resources and scaffolded course content which guide the participants through different stages of research generated a shared repertoire.

Participants

Five teacher researchers took part voluntarily in this study based on theoretical (purposive) sampling. They were active members of the online professional learning community and carried out most of the tasks throughout the course. Having completed the stages of the research process, they also shared their preliminary research findings in an online event with the other members of the community. Thus, we believed that they would provide rich data related to their online learning experience. We approached the participants after 6 months after the completion of the training. Participants teach English to various profiles of learners ranging from young learners to tertiary level in different countries including India, Argentina, Lithuania, and Hungary. To ensure anonymity the participants are given pseudonyms in the study. Participants came up with a range of research questions that they chose to examine within their research study and reported their research outcomes and reflections during the interviews which are outlined in Table 1.

Data Collection and Analysis

Teacher conceptions about the impact of research engagement upon their instruction were elicited through one-on-one online interviews. Before the interviews, participants received an interview guideline and gave their written consent. At the onset of the interview, participants provided background information with respect to their teaching and research background. The interview guideline had questions about their motives and motivation to conduct research, the methodology of their research (research questions, context, participants, findings, implications), and whether and how they made use of your research findings after completing their research. Semi-open questions were asked to elicit participant perceptions about the impact of their research engagement upon their teaching practices. Teachers were asked to consider whether and how their instructional decisions linked to their research findings. Interviews lasted around 45 minutes. Interviews were recorded and then transcribed. Verbal accounts of the participants (15.871 words) were analyzed thematically using inductive analysis procedures (Bogdan and Biklen, 1992). Thematic analysis was conducted iteratively to monitor the coding and categorization process. Disagreements between raters were resolved in further discussions.

Participants	Research Question(s)	Research Findings	Reflection
Ati Teacher/Teacher educator	What do the students think about the communicative group work projects (entitled English learners' Club) conducted in the English classes?	Communicative group activities supported the promotion of learner autonomy and helped learners to increase their self-efficacy by developing their self-esteem and acting as a means for lowering their affective filters. Learners seemed to understand the importance of collaborative learning and perceived learning from each other positively.	Although I had some challenges in communicative group activities such as large classes, inadequate classroom space, previous experiences of the learners (low level of confidence and fear about using English), time management and some inactive students, students stated these activities were enjoyable and effective for their learning.
Ada Teacher	EFL teachers' language use in the Hungarian primary school context	Foreign language teachers are not willing to use the target language even if they have knowledge of the foreign language due to a variety of factors including perceived low self-esteem in pronunciation.	Examining teacher beliefs about classroom language use is important because beliefs may affect teachers' pedagogic decisions and help understand what happens in the classroom.
Dania Teacher	1. What strategies do I use to correct during the fluency-focused activities? 2. What do my learners think about error correction in fluency-focused activities? 3. What are other possible ways to do it?	I discovered that I corrected very little in fluency-focused activities whereas learners tended to prefer to be corrected more often. Deliberate and sustained attention to the error and balancing correction practices are important.	In future, I will work on improving the speaking of my learners and I will correct more. By the end of the course, I decided to collect feedback on how much learners improved and how much correction contributed to it. Finally, I decided to keep a reflection diary on the effectiveness of various strategies and collect data for further exploration of balance between correction strategies in speaking.
Jose Teacher/Teacher educator	1. How prepared do teachers feel themselves for implementing blended learning? 2. What activities/ tools do teachers consider useful for teaching remotely?	Teachers are aware of the characteristics of the blended learning model but a teacher training policy to help teachers manage the organization of their teaching effectively is needed. There is also a need for organizational and collaborative tools. Teachers seem to lack the ability of embedding correcting and grading tools efficiently in their actual teaching.	Strengthening the role of collaborative strategies is necessary and the concept of planning should be recast into a new mould shaped by wider planning schemas that include teamwork and cross-curricular strategies.
Divya Teacher/Teacher educator	What can I do to motivate teachers of Unicent School to do classroom-based Action Research for their professional growth? What are the possible roadblocks a teacher researcher might encounter?	I found out a variety of factors impeding teacher research such as lack of time or management of time, class size, the difficulty of data collection, lack of support from students and parents, lack of teamwork, empathy, availability of resources and constructive guidance. research, and carry-on conducting research for PD as a teacher educator.	I will hold interactive group talks to change perceptions of the teachers and persuade them to do research. My future actions include mentoring teachers in completing their classroom-based research, motivating more teachers, through talks and workshops, to do classroom-based action

Table 1: Summary of participants' research questions, findings, and reflection

FINDINGS

Findings indicated that research engagement supported within the online CoP brings about change on two dimensions; (1) research-driven practical change and (2) research-driven PD.

Research-driven PK Change

Thematic analysis conducted for the interview data revealed that teachers' practice was affected by the process and results of research engagement since they reported various forms of practical changes which we categorized as substitution,

modification, re-definition, and enrichment in their instruction. Each of these themes is discussed separately.

Substitution

Substitution refers to using an instructional methodology and/or activity in the place of others based on research outcomes. Substitution involves teacher researchers' replacing what they normally do with a new practice as suggested by the results of their research. Participants reported that they substituted some elements of their methodology based on the

new understandings stemming from their research. Jose, for example, said:

My current experience in teaching includes a lot of digital facilities and digital devices that I needed to learn how to manage. My research helped me a lot with that, because it showed me what people needed to know, in terms of how to work with blended learning, how to work with technology in a context like ours, where technology is not one of the most favored aspects in education; actually, we lack technology a lot.

In another instance, Jose comments on how he used research findings to change his teaching environment during the emergency remote teaching in Covid-19 lockdowns and replaced some routine synchronous reading activities in the classroom with other online asynchronous ones.

I think research changed my teaching because it helps me manage other devices that I didn't take into account or perhaps I thought were a hindrance at the time of teaching. I'm going to give you a very brief example, these activities, where you were working with a reading comprehension activity, and you started asking your students. And what did you ask them? Question being okay, it's okay, it's wrong, and you lose a lot of time in that, when you can be using that time, to having them produce, create, do something more productive. So, I learned how technology helped me, like, put that outside the classroom, and transform that into an asynchronous activity. So that I could have more teaching time, I mean, real teaching time, with my students' synchronous time, in a way in which that synchronous time, teaching time is really useful and productive for my students.

Ada also substituted the use of first language for that of the target language when she could not explain to her students what she wanted to say.

I have to say I was not so confident. So, for example, when I can perceive that a student cannot understand what I'm saying in English or in German, then I leave the, the How to say that I leave this and I changed into Hungarian, into my mother tongue, but nowadays, No. So, I'm trying to explain in my own words in English or German, and I'm trying to use as much body language as I can in the classroom.

Modification

Modification indicates the making of a limited change in teaching pedagogy. As opposed to substitution, modification refers to the making of a limited change in something. Some teachers pointed out that because of their engagement in research, they decided to make some changes in their teaching and become more understanding towards their learners. To illustrate Divya, as a teacher educator, was doing her research with teachers. She observed that the teachers she mentored at times did not respond to her open-ended questions. Then she decided to modify her practice as in the following statement:

So, what I do is I give them a fill-in-the-blank kind of activity; you know, I start, I give them a sentence as a sentence starter, and ask them to complete that sentence. So, I say 'doing research has changed my teaching by'... and I say complete the sentence. So, if they add to that, then that will give me an idea about what they're doing.

For Divya, integrating this change into her instruction, giving a fill-in-the-blanks to cue learner responses rather than asking open-ended questions, had led to positive perceived changes in her teaching. She considered herself more resourceful (as she suggested she has 'more solutions to offer' and 'tips') and more understanding towards learners when they have difficulty with deadlines to submit their work.

I feel that I know the teaching and teachers better now, I will be able to handle features about mentoring better now. So, I have mostly solutions to offer. And it has, it has been a growth in me. I can see that. So don't get too agitated. If teachers do not submit things on time, I give them time. And I tell I give them tips to complete also.

Similarly, Dania, who focused on error correction in her research, referred to the changes she observed in her teaching as "little change" but concurred that these perceived changes impacted her instruction and proved to be beneficial for her learners by stating the following:

*I am not going to go into detail correcting everything. But I'm going to be very systematic and making sure that you really use the things we learnt you know, we learnt properly. It is not like I force them to speak correctly all the time, but I am much more rigorous with myself about correction. Like I don't let them just pass it and I try not to recast. I try to pay their attention to the error to make them notice it. So that is what has changed, and I like it. I think that it is more effective. I can see a lot of benefits of **this little change**. This little change is a very small change, but I think that it is very beneficial for my learners.*

Jose also highlighted the changes he started making not only in teaching/ lesson planning but also in teacher training saying:

*I use research findings... I apply them in my planning. I started planning in a **different** way in online lessons. I use it for my own classes, and also for helping other teachers who might train to plan their classes in the most minimal effective way. I use it (research findings) for teaching. I use it for lecturing, I use it for publishing.*

Re-definition

Redefinition, on the other hand, encompasses the idea of reevaluating teaching practices after research with a view to change and developing new insights. It entails the re-evaluation of the teaching practice investigated in the research to develop new insights and make changes. Dania, for example, investigated the role of error correction in students' improvement in speaking and reconsidered how error correction can be non-interruptive and decided to attend to the learner mistakes through self and peer correction.

So, these were the findings that I found. It was kind of just the exploration phase for me during the research. Like, you know... to decide what do I do more? How do I change my practice? So, I came up with the conclusion that I need correct more and it doesn't really interrupt their speaking. It doesn't destroy their motivation to speak at all. But it needs to be, you know, kind of not just instance correction, but make them pay attention to the error. And they would be like... thinking about it and correcting themselves or I would ask follow-up questions. Then you know a learning opportunity occurs.

Similarly, redefining her role as a teacher in the classroom, Ati indicated that her research engagement and experience led to a conceptual change in her instructional practice in favor of attaining learner agency rather than teacher-centered teaching.

I also realized how to plan for the students; what type of activities are very effective to develop their various language skills; that means listening, reading, communicating. So which type of activities will help my learners to develop themselves? How to make my classroom more student-centered, more learner-centered... How to bring collaboration in my classroom so that all students can participate, and they will have the responsibility of the work? So, I started thinking over that.

Within the scope of her research study, Dania consulted her colleagues as well as her learners to explore their opinions towards error correction. She remarked: *“It was very interesting for me to see that majority thought what I had thought before that we should not correct, they need to speak. I collected feedback from my learners, and they wanted to be corrected. It was so interesting for me to see such a kind of discrepancy between opinions”*. She also indicated that after asking her colleagues about their own practices into error correction she elicited some teaching ideas. Consequently, she started to inquire about her own teaching and get learners’ feedback about effectiveness of her error correction techniques. Research outcomes compelled Dania to redefine her participation, intervention, and role in error correction of her learners as indicated in her following remark:

So, I found that learners want to be corrected. They see balance as an important aspect and that there is a discrepancy between teachers’ views and learners’ views. That error correction might not be such a scary thing for a learner as teachers see it. And the free speaking practice you know, maybe in my case, it doesn’t have to be so vast. So, I find these aspects that correction is very important that paying attention to the errors is very important and learners need balance, and they need correction.

Because of her research engagement, she concluded that her practice changed in terms of re-defining her error correction approach.

So, I started correcting a little bit more in my lessons and I ask my students how they felt about it and the feedback was overly positive. So, that changed my practice. Definitely did! I started to look at it a little bit differently. You know I see the lesson time as more of a learning time. What I mean by that is this is me I am your teacher. I need you to pay attention to the errors. Nobody will do that in such a systematic way that as I would do in the lesson. Maybe somebody would do that but not in such a systematic way. And another thing that my learners said that I really liked... they mentioned they need a balance.

Enrichment

Finally, enrichment involves making teaching practice richer, especially by the addition or increase of some desirable quality or attribute. It entails the concept of adding or increasing some desirable quality, attribute, or ingredient (activity, method, etc.) to the teaching methodology. In enrichment the

focus is not on changing one’s instruction; it rather conveys the idea of adding another layer to what you already have been doing. For example, Ada’s research focused on her colleagues’ attitudes towards using mother tongue (L1) or foreign language in multilingual primary classes and how these interacted with their instruction in exploiting classroom materials. She emphasized that her research informed her own teaching practice and brought about enrichment. Building on her instructional practices, she decided to make more use of the native and target language of her learners as stated in the following quotation: *“Well, I’m using more foreign language in my, in my own classroom, so that, probably that is the result of the questionnaire or of the research. Yeah, and as I said, I use the parallel versions of the two languages, so I can make connections between the languages”*.

Ati conducted her research on student interaction in groups. She reported that her learners tended to exclude their peers with low language proficiency. It was argued that based on research findings she chose to enrich her use of group work by adding randomization as a technique to form clusters/groups.

As a result of my research, I found the students are ready to work in the groups. Before that everybody wanted to work individually. no one wanted to work with the lower proficiency student. because they feel that our work will be spoiled. and our work will not be very effective. So many students have formed their own groups but with the higher proficiency students only. Everybody wants to work with those students and automatically lower proficiency students were out of this project. When I observed all these things, then I used another formula, another technique for the group formation which is random. That helped me a lot. Those who are in the role number 1 to 15, they will be in the first group. According to their role call I formed a group. Then all kinds of learners joined together.

Similarly, Jose suggested that drawing on the findings of his research into planning online teaching he decided to allocate more time to activities that encouraged active participation of the learners through engagement in activities that required analysis, synthesis, evaluation and creation.

And I devoted my teaching time to the higher levels of the of the of the Bloom’s taxonomy: that is creating, evaluating, and analyzing. And students produce much more than they did when we have like the regular class. And this helped me a lot noticing how I could manage my time better. And it actually took a lot of stress out.

How Personal Knowledge Change Nurtured Research-driven Professional Development

Our participants identified the practical changes they self-regulated and integrated into their teaching. Motivated by these changes they also narrated how they also help them see the potential PD in the process of developing practical knowledge. We see these two parallel processes as complementary because research engendered changes in classroom teaching which linked closely the PD activity, mainly research, and how they described the PD they have experienced. Therefore, a second major theme emerged, research-driven PD, and helped strengthened the development of PK change.

Participants conceived that their engagement in the research process within the scope of the online CoP facilitated research-driven PD. Teachers reported that being immersed in the research experience and reflecting on the process within the online community when interacting with mentors, peers, and others not only changed their practices but also contributed to their self-efficacy and fostered a sense of teacher researcher identity. Verbal accounts of the teacher researchers implied a substantial, long-term, and transformational impacts on their PD beyond the actual training program.

To begin with, the concept of research being a distant, isolating academic endeavor seemed to change for some of the teachers; for example, Dania said:

I remember the webinar and I was like: 'Yeesss!!'. Oh my God! This is amazing because the speaker was talking about how research is a skill. This made me see research as not meant for somebody just sitting there in a throne in academia and just sacrificing all their personal lives. It really showed me, and that research can be very classroom-based and that is me the teacher in the classroom, I am the expert my classroom. Research is just a skill, and you learn it as a skill and do it to improve yourself. I thought this is such a shift of perspective. This is taking the control into my own hands. I don't need to wait for anybody to do research for me I can do it for me, and I don't need to wait for somebody to discover some better ways of teaching for me because I can find what works the best in my classroom context. That was incredible. That was very inspiring and very empowering.

Dania referred to the guest talks given by the experts within the scope of the online sessions and reported that the content of these talks impacted how she viewed research and the link with her own teaching. She believed that the research engagement process, online training, and support from the community were empowering as was reported by other participants. Ati, on the other hand, drew specific attention to how the interaction and collaboration between the members of the online CoP fostered her own PD by saying:

"For the first time I realized that teachers could do research, explore many new things and they can share their ideas. when I joined EVO and read other people's post from different parts of countries, I learnt about their innovative practices. Then I realized I can do the same. And I can practice in my own classroom and do action research".

Paul also highlights how research has helped him become a better teacher by revisiting his own teaching and a facilitative mentor by providing research support for his mentees.

This idea of doing research in my classroom to see how I needed to modify my teaching to improve my classes turned to be very useful. So, I decided to go on with that. Well, not only do I do it now, but I also try to ask my mentees to do it. I try to work with my mentees in the same way and like to show them how important research is. So, to help other people with research, you have to work a lot of research yourself. So, there is no other way than working on improving your research skills. That's why I was interested in working on that and trying to see what else I could do. And it actually helped me a lot.

In addition, Ada suggested that conducting research led to the emergence of a new layer of her teacher identity which encompasses the concept of being and becoming a researcher: *"Yeah, I learned a lot about myself, while, how to say analyzing the data, and the whole research and yeah, so the part of the research is, always a self-reflection? I think so. Yes, I consider what am I doing in my own classroom? And I try to be a better teacher and educator".*

Dani, on the other hand, pointed out the sustainability of this process, research integrated teaching experience, by mentioning how other future research projects are triggered by her previous engagement/experience.

I have further research in mind now. I've always wanted to do it and I just didn't have time. It was a little bit of hectic. I found a book while doing these workshops and it is about exploratory practice. I started reading now and it is super interesting. I really like it. I want to do similar research, an exploratory practice on my class and my strategies because now I work with young learners. The lessons are shorter; just 45 minutes. I noticed that in the first moments of the lesson they are so focused, and I really want to make use of it. How can I make use of those precious moments better? And that's what I want to research during this year at least.

In sum, teacher accounts imply that their participation and engagement in the online CoP provided them with the opportunity of research-driven practical change and research-driven PD. Classroom-based research was portrayed as a powerful means for PD which impacted teachers' practice based on systematic collection of evidence, analysis of and reflection on the research outcomes, as well as the process. The following reflection by Ati is elemental in demonstrating how research process brings about reflection and impacts teacher agency.

During my research, I observed the students closely for 5 months. How they were discussing with each other while completing the work and after completing work. How give the response to me. So, I took reflective notes about students' work and how they felt about the practices while doing the work. In my teacher journal, I reflected on myself about the effectiveness of the activities. I mentioned my own reflection on whether I am on the right track or not whether my objectives were fulfilled or not particular. I reflected on whether my objectives were achieved or not, whether I have to make a different plan another plan for them. if some activities for not effective then how to plan for different activities.

DISCUSSION

The current study aimed to explore the development of PK to identify the practical scope of change enacted by teachers' engagement in practitioner research in an online community-based course. Findings suggest that research engagement in this context, within the online CoP, impacted development of their PK. These findings are in line with prior research outcomes arguing for a strong relationship between research-oriented professional development activities and PK (e.g., Burns, 2014; Tanış and Dikilitaş, 2018; Van Schaik et al., 2019; Wyatt, 2011). We also found that personal knowledge

change based on research engagement nurtured professional development and triggered their motivation to pursue research-driven PD (c.f. Tanış and Dikilitaş, 2018). This finding also resonates with previous research (Edwards and Burns, 2016; Cabaroğlu, 2014; Dikilitaş and Yaylı, 2018; Wang and Zang, 2014; Wyatt, 2008). Although we did not observe the actual changes in teaching, teachers' continuous written reflection on their process of research and teaching gave us insightful evidence together with the interviews we conducted with the participants.

Therefore, our emerging framework included how the intricacy of practical change by describing the nature and process of practice change in teaching. We used the following major themes to identify the process of change: substitution, modification, re-definition, and enrichment in their instruction. In close relation to this, we also presented their views of the kind of PD that was enacted by practitioner research training in the CoP, which provided opportunities for collaboration, ongoing dialogue, and 'a shared social identity in an online learning environment' (Göktürk-Sağlam and Dikilitaş, 2020: 10). Drawing on the thematization of the process and nature of practical change that participants narrated, we argue that PK development and change translated into teaching is the building block of PD, which ultimately entails teachers to change or promote their teaching process. We claim that PK change can be seen as a layered process where teachers can substitute, modify, re-define, or enrich their teaching process as suggested by their practitioner research.

We show the close relationship between teachers' research and their practices which could be referred to as PK change.

Research offers the potential to change practices since it is also a practice that can be integrated into teaching. For example, a research activity that engages students in elaborating on their process of learning vocabulary could also be a thinking and verbal reflection activity that promotes meaningful verbal skills while also offering the teachers data that can be used as evidence to explore learner voice and consider PK development. Research itself is a practical activity that can engage students and teachers into knowledge building and development not only in formal learning and teaching but throughout their life cycle (Hodge et al., 2008).

The findings revealed several key implications to state. Motivated by the themes we revealed, we propose several practical considerations when teachers are mentored to engage in research for PD. These include

- encouraging teachers to make purposeful links to their teaching when they engage in practitioner research
- teaching them to reflect on the translation of their PK from research into practice of teaching
- inspiring them to identify topics of research grounded on their teaching issues to strengthen the influence on teaching
- facilitating a process of researcher and teacher roles as complementary that makes PD a research-based engagement
- discussing with teachers the PD opportunities that could be gained into research-teaching links
- building communities of practices which aim to support research engagement and increase the chances of support from multiple knowledgeable and experienced others.

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APPENDIX

APPENDIX: INTERVIEW QUESTIONS

1. Introduce yourself (your teaching and research background).
2. How did you get involved in classroom-based research? How did you decide to conduct research?
3. Tell us about your research.
 - a. Which topic did you explore? Why did you choose that topic?
 - b. What tools did you use for collecting data?
 - c. What did you find?
 - d. How did you arrive at your conclusions/ research outcomes?
4. What have you done with your research findings? How did you make use of your research findings after completing your research?

Concluding remarks