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Metaphorically Speaking: Pre-Service EFL Teachers' Understanding and Conceptions of (Teacher) Research

Merve Savaşçı, Department of Foreign Language Education, Sakarya University, Sakarya, Türkiye, msavasci@sakarya.edu.tr
Cihat Atar, Department of Foreign Language Education, Yıldız Technical University, Istanbul, Türkiye, cihat.atar.itu@gmail.com

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Metaphorically Speaking: Pre-Service EFL Teachers' Understanding and Conceptions of (Teacher) Research

Merve Savaşçı [1] & Cihat Atar[2]

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ABSTRACT

Given the scarcity of research focusing on pre-service teachers' research engagement, this paper embarks on a qualitative descriptive study about how a group of Turkish English-as-a-foreign-language (EFL) pre-service teachers (PSTs) understand and conceptualize teacher research. Notably, this study addresses a significant gap in the existing literature, for it explores this issue using metaphor analysis, a method that has not been previously employed. Considering the potency of the use of metaphor analysis in revealing underlying beliefs, this study attempts to explore PSTs' perceived conceptions of reading and conducting research on their future engagement in and with teacher research through conceptual metaphors. The participants were Turkish EFL PSTs (N= 41) who had previously completed an undergraduate research methodology course and carried out small-scale research projects prior to data collection. Data were triangulated via three instruments: A survey, a metaphor completion task, and interviews. "Research" and "teacher research" metaphors were elicited via two metaphor prompts, namely "*Research is like…because…*" and "*Teacher research is like…because…*". Responses to closed-ended survey questions were analyzed by descriptive statistics whilst data coming from open-ended survey questions and interviews underwent inductive content analysis. Additionally, the metaphorical conceptions were analyzed by metaphor analysis. Findings illustrated that although PSTs considered research engagement valuable in terms of improving their pedagogical and content knowledge, they did not appear to focus much on personal or intellectual gains. Hence, these findings provide insights into how PSTs conceptualize teacher research following their exposure to research experiences. The implications are discussed focusing on providing implications for pre-service teacher training, and suggestions are made for further research in this field.

Teacher research, also known as action research, classroom research, practitioner research, or educational research, is an umbrella term referring to the systematic (Borg, 2010) and intentional (Stenhouse, 1985) inquiry teachers carry out in their professional settings to evaluate their own practice, teaching, and student learning (Stenhouse, 1985). Fundamentally, it develops teachers' reflective thinking to strengthen their professional judgment (Kirkwood & Christie, 2006). Being research engaged acts as a catalyst in teachers' self-inquiry, critical, reflective, and analytic thinking, thereby facilitating and promoting their personal and professional growth. Indeed, teacher research is not just of value to the individual development of teachers but also promotes broader improvements to schools and classrooms, so to speak

[1] Department of Foreign Language Education, Sakarya University, Sakarya, Türkiye, msavasci@sakarya.edu.tr, +90(264)2957190

[2] Department of Foreign Language Education, Yıldız Technical University, Istanbul, Türkiye, cihat.atar.itu@gmail.com, +90(212)0000000

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(Borg, 2010). Given this position, it has been garnering growing attention, particularly in the last decade, to encourage teachers to acquire and shape a researcher identity besides their teacher identity. Namely, teachers are now encouraged to adopt a teacher-as-researcher identity and be research-engaged, which can basically take two different forms: engagement *with* and *in* research (Borg, 2010), defined herein as reading or using research and doing or conducting research respectively (Borg, 2010). Given the benefits of each, both forms of engagement are indeed considered significant for teachers, and in-service teacher training (INSET) programs aim to equip teachers with the knowledge and skills necessary to engage *in* and *with* teacher research as well as help them adopt teacher-as-researcher identity.

Nevertheless, whilst in-service (or practicing) teachers' research engagement has garnered significant attention, that of pre-service teachers (PSTs) has attracted little attention. However, as much as it is essential to contribute to the development of in-service teachers' researcher identity, it is equally important to contribute to PSTs taking on a researcher-teacher identity as teachers shape their professional consciousness and beliefs during their pre-service years to a great extent. In addition, PSTs will have a significant effect on hundreds and maybe thousands of students as future teachers, creating a snowball effect (Erdem et al., 2019). Hence, particularly relevant in this respect are the earlier studies reporting that the number of in-service teachers conducting action research is reported to be depressingly small (Ersoy & Çengelci, 2008). As to the common reason behind this, teachers tend to face some obstacles in the research process due to their insufficient research skills and have preconceived ideas that research can and/or should be conducted only by academicians (e.g., Ersoy & Çengelci, 2008; Smith & Sela, 2005). Hence, care about this issue must indeed be taken long before they start the profession, during teachers' pre-service years in their journey toward becoming teachers. As Van der Linden (2012) contended, "teacher education is an appropriate time to invest in student teachers' attitude towards research" (p. 113). Also, teacher education programs need to welcome a reflective approach by fostering PSTs' engagement both in reading and doing research because "If pre-service teachers see their work life in terms of surviving the day, then it is unlikely they will focus on reading or doing research, regardless of how accessible it is" (Gitlin et al., 1999, p. 767).

Accordingly, this study aims to investigate pre-service English-as-a-foreign-language (EFL) teachers' understanding and conception of teacher research, as well as their future orientations to utilize research, namely their future engagement *with* (i.e., using and/or reading) and *in* (i.e., doing and/or conducting) research.

2. Literature Review

Borg (2010, p. 395) defines teacher research as follows:

> as systematic inquiry, qualitative and/or quantitative, conducted by teachers in their own professional contexts, individually or collaboratively (with other teachers and/or external collaborators), which aims to enhance teachers' understandings of some aspect of their work, is made public, has the potential to contribute to better quality teaching and learning in individual classrooms, and which may also inform institutional improvement and educational policy more broadly

Teachers' research engagement could take several forms and is not restricted to doing research only; instead, such research engagement also involves reading, interpreting, and evaluating research, yielding several benefits for teachers. Yet, the review of literature on teachers' research engagement suggests that understanding of teachers-as-researchers tends to focus more on in-service teachers. On the other hand, as already indicated, comparatively fewer studies focus on the research engagement of pre-service EFL teachers. Still, empirical data from several different international contexts are available, including Australia (e.g., Shaw et al., 2008), China (e.g., Bi & Liu, 2022; Trent, 2012), Colombia (e.g., Zúñiga et al.,

2021), the Netherlands (e.g., Van der Linden, 2012; Van Katwijk et al., 2023), South Africa (e.g., Lombard & Kloppers, 2015), the United States (e.g., Gitlin et al., 1999; Price, 2001), and Türkiye (e.g., Akyel, 2015; Cabaroglu, 2014; Elmas & Aydın, 2017). So far, these earlier studies have reported that teacher research yields several benefits for PSTs in their process of learning to teach: personal and professional development (Savaşçı & Rets, 2021; Şener, 2017; Tanış, 2019; Trent, 2012) by keeping them up-to-date with new developments in the field (Anapa, 2019; Tanış, 2019); the development of content knowledge (Elmas & Aydın, 2017; Tanış, 2019; Zúñiga et al., 2021), problem-solving skills (Cabaroglu, 2014; Elmas & Aydın, 2017), self-efficacy (Cabaroglu, 2014; Müjdeci, 2020), autonomy (Cabaroglu, 2014; Ögeyik, 2013), reflectivity and inquiry (Akyel, 2015; Cabaroglu, 2014; Van Katwijk et al., 2023), and research knowledge and skills (Akyel, 2015; Atak-Damar & Salı, 2022; Elmas & Aydın, 2017; Sözbilir, 2007; Tanış, 2019; Van der Linden, 2012; Van Katwijk et al., 2023; Zúñiga et al., 2021).

Studies with PSTs with different specializations (e.g., primary school teacher education) in international contexts (e.g., Gitlin et al., 1999; Lombard & Kloppers, 2015; Price, 2001; Trent, 2012; Van Katwijk et al., 2023; Van der Linden, 2012; Zúñiga et al., 2021) have been conducted and generally yielded positive findings. For example, In Price's (2001) study that explored elementary, middle, and high school PSTs' (N= 11) understanding of research during their experience with an action research course in the U.S. context, action research projects became "a powerful influence upon how they constructed their role as teachers and imagined their work as teachers." (p. 70). In another study, Trent (2012) reported that pre-service English teachers (N= 6) in the Chinese context considered research engagement rewarding in terms of contributing to their professional development as teachers. However, they also indicated an identity conflict between "teachers" and "researchers" by differentiating between "real" and "individual" research, pointing out several challenges and concerns to conducting research as full-time teachers. In Lombard and Kloppers's (2015) study, senior PSTs (N= 124) in the South African context felt anxious and insecure initially; however, they started feeling more confident and positive about their research experience later on. On the other hand, they did not seem to understand the value of educational research, yet adopted several "soft skills" such as planning tasks, reading and analyzing the literature, and so forth. Van der Linden (2012) similarly highlighted that Dutch pre-service primary school teachers (N= 81), who were second-year student teachers, developed more positive attitudes toward both conducting and using research after completing an introductory research course. They also reported enhancing their research knowledge and skills. In the Dutch context, another study was conducted by Van Katwijk et al. (2023) with pre-service primary school teachers (N= 236). Findings showed that they valued research and felt more confident in undertaking practitioner inquiry after completing their projects. They reported developing their "research skills, inquiry habit of mind and research literacy" (p. 16) and that they can use earlier research in their practice. In a recent study conducted in the Colombian EFL context by Zúñiga et al. (2021), Colombian pre-service English language teachers (N= 20) improved their understanding of research in both theoretical and practical aspects after undertaking research projects.

Studies conducted with pre-service EFL teachers, especially those in the Turkish context, appear to be comparatively limited, though (e.g., Akyel, 2015; Anapa, 2019; Cabaroglu, 2014; Elmas & Aydın, 2017; Müjdeci, 2020; Ögeyik, 2013; Savaşçı & Rets, 2021; Şener, 2017; Tanış, 2019). In the Turkish context, one of the earlier studies in this context was conducted by Ögeyik (2013), who reported that Turkish EFL PSTs (N= 24) had positive attitudes towards educational research. Whereas almost half of the participants deemed educational research useful for their professional development, a significant majority (81%) voiced the difficulty of research. From another perspective, Cabaroglu (2014) posited that research engagement helped PSTs become more self-efficacious. After completing their projects, PSTs had firmer self-efficacy beliefs and indicated positive effects of action research engagements regarding fostering autonomy, creativity, reflectivity, confidence building, and problem-solving skills. Some other benefits of research engagement were indicated by Akyel (2015), who investigated Turkish pre-service EFL teachers'

(N= 24) opinions regarding its benefits for their professional development. Participants were senior PSTs responsible for undertaking small-scale research projects in their practicum schools. Most PSTs thought research promotes classroom teaching, research knowledge and skills, and reflectivity. In a qualitative study, Elmas and Aydın (2017) investigated second-year pre-service EFL teachers' (N= 44) perceptions of research skills. They had taken a research methodology course where they learned research skills and conducted research projects. PSTs reported developing their content knowledge on the topics they did their research as well as research knowledge and skills. In another study adopting an exploratory case study design, Şener (2017) investigated Turkish PSTs' (N= 66) research experience through involvement in classroom research. Having engaged in research, PSTs' feelings about the research process were mostly positive, and they reported improving personally and professionally. In Tanış's (2019) case study, pre-service EFL teachers found research engagement "rewarding and challenging" (p. 111). Moreover, they thought research "served as an encouragement for postgraduate studies" (p. 111). In addition, engagement *with* research (i.e., reading it) empowered them "to gain up-to-date professional knowledge to inform their praxis." (p. 114). Anapa (2019) likewise investigated Turkish EFL PSTs' (N= 381) research engagement levels (both *in* and *with*), who took the compulsory Research Skills course at three different state universities. Her study, descriptive and mixed-method in nature, revealed that PSTs "rarely" read research. Although they reported benefitting from taking a research course professionally rewarding, most considered "teaching" and "researching" as separate activities and held the view that having a teacher-as-researcher identity is difficult to pursue in their future professional lives. Müjdeci (2020), in her doctoral dissertation, investigated senior Turkish EFL PSTs' (N= 16) conceptions of research in the Student Teacher Research Module (STRM) to observe their development as teacher-researchers. During the module, they had hands-on experience through small-scale projects. They developed positive attitudes towards teacher research and found it useful in terms of many aspects. In a more recent study, Savaşçı and Rets (2021) investigated Turkish pre-service EFL teachers' (N= 32) attitudes towards research engagement, who conducted individual research within the scope of the research methodology course they took. PSTs developed more positive attitudes over time and felt more self-efficacious and confident. Also, although some had had anxiety before taking the course, they stated overcoming it over time. They also found this experience and knowledge valuable, yet almost one-third of PSTs said they did not consider engaging in research in their future career due to some challenges.

As is manifested, varying understandings have been expressed regarding research engagement, some of which have not yielded positive perceptions. To exemplify, some PSTs held negative perceptions of doing research and faced certain problems and challenges while engaging *in* research. In some studies, they pronounced the potential factors that would prevent them from doing research in their future teaching career (e.g., Akyel, 2015; Anapa, 2019; Elmas & Aydın, 2017; Savaşçı & Rets, 2021). Specifically speaking, heavy workload, time pressure, academic writing difficulties, and complexity of conducting and writing research (Elmas & Aydın, 2017) were among the common problems. Some PSTs thought research is stressful and demanding work (Savaşçı & Rets, 2021; Şener, 2017) and requires a heavy workload (Tanış, 2019). When the root causes of these problems were further investigated, PSTs reported having "a lack of skills in research literacy" (Elmas & Aydın, 2017; Tanış, 2019), which exacerbated these pronounced problems. Furthermore, some PSTs "perceived the lack of guidance and feedback on their progress" (Tanış, 2019, pp. 111-112) and reported that doing research requires assistance (Ögeyik, 2013). Moreover, some PSTs conceptualized research as a difficult, time-consuming (Ögeyik, 2013) as well as tiring (Akyel, 2015; Anapa, 2019) process. Some also posited "the view that research is done only for academic purposes" (Şener, 2017, p. 61). Likewise, Tanış (2019) reported that PSTs stated that research was not commonly seen as part of the job description for English language teachers. PSTs in Akyel's (2015) study, from another perspective, reported school administrations' unsupportive/discouraging behaviors. As is seen, some PSTs held negative views towards research engagement due to a divergence of viewpoints.

2.1. Significance, Aim, and Research Questions

Within the framework outlined above, there seems to be a consensus in earlier studies that research engagement yields several benefits for PSTs along with presenting some challenges, yet at the same time, they tend to hold negative beliefs towards being research-engaged in their future professional career. Also, although earlier studies adopted different research designs, what is largely missing from the literature is that no studies have addressed this issue by using metaphors as an analytical tool so far. Given the effectiveness of the use of metaphor analysis in revealing underlying beliefs (Lakoff & Johnson, 2003; Kövecses, 2010), which may not be readily apparent through conventional research methods, it might be significant to investigate PSTs' understanding of research engagement through metaphorical conceptions to have a much deeper insight. Drawing on the developing body of literature necessitating the adoption of different research designs and requiring further research on PST research engagement, this qualitative study investigates PSTs' understanding and conceptions of teacher research, and aspirations to conduct teacher research in their future professional lives. Furthermore, previous studies used questionnaires (e.g., Akyel, 2015; Atak-Damar & Salı, 2022), interviews (e.g., Elmas & Aydın, 2017), or reflective journals (e.g., Cabaroglu, 2014) to investigate teacher research, but metaphor studies have not been employed, making this study among the few earlier attempts to investigate the issue with a different methodological design. To this end, the following research questions guided this study:

RQ1. What is Turkish EFL PSTs' understanding of research?

1.1. What are Turkish EFL PSTs' metaphorical conceptions of research?

RQ2. What is Turkish EFL PSTs' understanding of teacher research?

2.1. What are Turkish EFL PSTs' metaphorical conceptions of teacher research?

RQ3. What are the aspirations of Turkish EFL PSTs regarding their future engagement *with* (i.e., using and/or reading) and *in* (i.e., doing and/or conducting) research, and what factors influence their decisions?

3.1. What do Turkish EFL PSTs think of the potential effects of teacher research regarding their future engagement

3.1.a) *with* (i.e., using and/or reading) research? Why?

3.1.b) *in* (i.e., doing and/or conducting) research? Why?

3. Methodology

3.1 Design

This study adopted qualitative methodologies to collect data, namely through a survey comprising closed and open-ended questions, a metaphor completion task, and interviews. The study was also descriptive in nature as it aimed to "describe a given state of affairs" (Fraenkel et al., 2011, p. 22). To investigate the cognitive aspects underlying PSTs' understanding and conceptions of teacher research, this study also drew on the Conceptual Metaphor Theory (CMT) introduced by George Lakoff and Mark Johnson in 1980. As pointed out by Kövecses (2010), CMT establishes a framework of ground rules for analyzing how metaphors profile the conceptualizations of concepts from a cognitive perspective, in this case, teacher research.

3.2. Participants and Setting

A group of conveniently sampled PSTs (N= 41) enrolled in a four-year undergraduate language teacher education programme (namely, the Foreign Language Education Department) of a state university in Türkiye were the participants of this study. At the time of data collection, participants had completed a

compulsory undergraduate research methodology course, a second-year compulsory course titled Research Methods in Education- a course offered in the fourth semester of the undergraduate program.
At the end of the semester during which the course was offered, participants were invited to participate in the study. Nearly all were sophomore (i.e., second-year) students, except a few of them -juniors and seniors- who had either been repeating the course or taking it for the first time due to their course plans. There were 28 female and 13 male participants whose ages ranged from 19 to 26. The criteria for the inclusion of participants were that 1) they had taken the research methodology course and 2) they had completed a small-scale research project individually, which was a requirement of the course. They individually undertook small-scale research projects by first learning about research and research types, and then reading and searching the literature. After that, finding a research topic, writing a research proposal, collecting and analyzing data, and writing the manuscript for the study ensued. Participation in the research was entirely voluntary, and participants were informed by the researchers that the data would be used for research purposes and that they could withdraw from the study if/when they wanted to.

3.3. Data Collection

Data were triangulated through three sources of data developed by the researchers for the purposes of this study: 1) A survey (see Appendix A), 2) a metaphor elicitation task (see Appendix B), and 3) semi-structured interviews (see Appendix C).
The survey (see Appendix A) comprised a total of eight items, with four being closed-ended and the remaining four being open-ended. The items sought to elicit data with respect to the participants' understanding of research and teacher research as well as to find out their aspirations for future research engagement (both *in* and *with* research) and the perceived effects of research engagement on their future teaching practices. To develop the survey items, the researchers initially reviewed the literature and analyzed the findings of earlier studies (e.g., Borg, 2010) for the theoretical and conceptual background. Afterwards, they developed the survey and subjected it to expert opinion. The expert, who had an M.A. degree in English Language Education, was invited to review the survey items for appropriacy, suitability, and clarity, and necessary revisions were made in light of the expert opinion.
The metaphor elicitation task (see Appendix B) comprised two sentence completion tasks focusing on two prompts: one for the concept of "research" and the other one for the concept of "teacher research." In other words, there were two target domains which required respondents to provide source domains (Kövecses, 2010). The participants were asked to provide conceptual metaphors both for "research" and "teacher research" through sentence completion tasks followed by a supporting explanation of the metaphors, namely metaphorical reasonings (i.e., "Research is like … because…" and "Teacher research is like … because …"). The metaphor elicitation tasks were developed to understand the cognitive mappings through conceptual metaphors (Kövecses, 2010).
In order to explore the issue more in-depth (Cohen et al., 2018), in other words, to verify or refute (Fraenkel et al., 2011) the data coming from other two sources, follow-up interviews (see Appendix C) were used. As Fraenkel et al. (2011) remarked, "The purpose of interviewing people is to find out what is on their minds—what they think or how they feel about something" (p. 451). Specifically, semi-structured interviews (Bogdan & Biklen, 2007) were used in this study. Interview items were also developed by the researchers in the light of the review of earlier studies (e.g., Akyel, 2015; Borg, 2009, 2010) as well as the research questions and survey items of this study, which were also subjected to expert opinion for ensuring validity.
Data elicited via the survey and metaphor elicitation task were collected online through Google Forms. Having responded to the survey, some participants sampled through purposeful sampling were invited

to semi-structured interviews. Researchers analyzed the responses provided by participants and determined those who should be invited to participate in interviews. The criteria for sampling interviewees were determined by following these steps: Firstly, participants who provided positive and negative responses to the survey items were categorized into four sub-groups: Those who stated that they (1) would both read and conduct teacher research (*n*= 15), (2) would read research but might conduct research (*n*= 17), (3) might read and conduct research (*n*= 18), (4) might read and would not probably conduct research (*n*= 1) when they become teachers. Participants from each sub-group were selected by balancing the number of females and males, and a total of 10 participants (five of them held positive attitudes towards teacher research, whereas five of them held negative views) were invited for semi-structured interviews, yet nine of them agreed to participate. By purposefully selecting the interviewees, researchers aimed to explore different views and perceptions participants held towards research and the underlying reasons behind their responses to the survey questions and metaphor elicitation task. The native language (i.e., Turkish) of participants, in accordance with their preferences, was used in the interviews which were conducted online by the second author of this study, and they were audio-recorded. In total, nine individual sessions were conducted, and each interview lasted between 4 and 7 minutes, totaling around 50 minutes (M= 5.5 minutes).

3.4. Data Analysis

Data collected via the survey and interviews were analyzed in two different ways: Responses to closed-ended survey items were analyzed through descriptive statistics, whereas responses from open-ended items and interview data were analyzed via inductive content analysis (Bogdan & Biklen, 2007). Analysis of the qualitative data from open-ended survey items and interview items overall depended first upon determining the tendencies and then upon the content analysis to explain and/or support the tendencies.
The analysis of the data coming from the metaphor elicitation task, on the other hand, was done adhering to Cameron and Maslen's (2010) metaphor analysis approach. Metaphors were analyzed to get the underlying cognitive mappings, and those missing clear references were omitted from the analysis. After various revisions, metaphors having positive and negative connotations were separated and conceptual categories were created by the researchers accordingly. To minimize bias and ensure the reliability of content analysis, both researchers coded all the data. First of all, they had a meeting to discuss the coding procedures and calibrate their understanding of these procedures. Afterwards, all data were coded individually by each author, and then they held another meeting for comparative analysis during which consistencies in coding were compared and contrasted. In case there were inconsistencies, inter-coder agreement was ensured by rectifying them through detailed discussion.

4. Findings

4.1. Understanding of "research"

With regard to RQ1, participants were initially asked about their understanding of "research", and findings showed they overall had positive images of research. Table 1 tabulates the findings with sample excerpts.

Table 1.

Participants' understanding of "research"

Theme	**Frequency (f)**	**Sample Excerpts**
Research as a Contribution to Knowledge and Understanding	11	*"Research means broadening my ideas and knowledge in a field that I am interested in or curious about."* *"Research is a creative and systematic process to enhance knowledge."* *"...research means to get a better idea about a topic, to investigate a situation systematically."* *"Research is exploring something. You start to learn and go deeper about a topic."*
Research as an Answer	10	*"Research is trying to find answers and solutions to your questions or problems."* *"Research is a process that you try to find an answer until you find another question."*
Research as Discovery and Exploration	9	*"To discover new "things". To deeply get information about new things."* *"It is a managed process to discover unknown events or contribute to known information."* *"Research is exploring something. You start to learn and go deeper about a topic."* *"Unveiling the information that exists beforehand."*
Research as an Investigation	6	*"Investigating something in a detailed way."* *"Research is to investigate every detail about any concern."* *"...research means investigating something which is searched before to find new or different results.*
Research as a Solution	5	*"Finding answers and/or solutions to controversial issues"* *"Searching for a solution to a problem"* *"Research is trying to find answers and solutions to your questions or problems."*

Research as a Process	3	*"A process to learn what is required or what someone wants to learn"*
Research as a Creative Process	2	*"Research is a creative and systematic process to enhance knowledge."*
Research as Questioning	2	*"In my opinion, research means honest and impartial questioning on issues that do not reveal certain results or remain uncertain."*
Research as Learning	2	*"A process to learn what is required or what someone wants to learn"*
Research as a Facilitator for Teachers	1	*"...it is like an assistant for me because I conduct research to analyze the situation of class, students or etc. Research studies help us to be informed about the problem, or form a style for the future in terms of teaching a foreign language."*
Research as a Justification	1	*"To justify your assumptions in a scientific manner."*
Research as a Systematic Process	1	*"Research is a creative and systematic process to enhance knowledge."*
Research as Observation	1	*"Research simply means observing and investigating something to have information about a topic."*
Research as Evaluation	1	*"It is an evaluation of an argument through the idea of people."*
Research as Drawing a Conclusion	1	*"...research means trying to draw a conclusion to a topic, which is not clearly stated, with the help of scientific methods and evidence."*
Research as an Evidence-based Process	1	*"...research means trying to draw a conclusion to a topic, which is not clearly stated, with the help of scientific methods and evidence."*
Research as a Useful Process	1	*"...exploring new data and coming up with brand new results to contribute to society."*
Research as Self-enlightenment	1	*"Doing research in general is something that develops people a lot. So I think conducting a research means enlightening oneself."*

As reported in Table 1, PSTs depicted research more as a contribution to knowledge and understanding (f= 11), an answer to questions or problems (f= 10), discovery and exploration (f= 9), an investigation (f= 6),

and a solution (f= 5). Also, some others uttered descriptions depicting research as a process, a creative process, questioning, learning, and a facilitator for teachers.

4.2. Conceptual metaphors for "research"

In line with RQ1.1., PSTs were also invited to provide a conceptual metaphor for research and when the metaphors were analyzed, findings illustrated that PSTs conceptualized research in divergent ways. In Table 2, metaphors are presented according to their categories and connotations.

Table 2.

Conceptual metaphors with regard to "research"

Metaphor category	**n of metaphors**	**n of metaphors having neutral or positive (+) connotation**	**n of metaphors having negative (-) connotation**
Research as a Process	10	10	-
Research as Exploration	7	7	-
Research as an Unending Cycle	7	7	-
Research as Enlightenment	4	4	-
Research as a Contribution to Knowledge	4	4	-
Research as a Challenge	3	1	2
Research as Individual Interpretation	2	2	-
Research as Compassion	2	1	1
No Categorization	2	2	-
Total	41	38	3

As presented in Table 2, almost all the PSTs (n= 38, 93%) conceptualized research by using metaphors having neutral or positive connotations, whereas only three PSTs (*n*= 3, 7%) provided metaphors having negative connotations. All the metaphors (f= 41) provided by PSTs for research are presented in detail with the sample excerpts in Table 3.

Table 3.

Participants' conceptual metaphors for "research"

Code	Frequency (f)	Sample Excerpts (Research is like…because….)
Research as a Process	10	*"...climbing because it progresses step by step and new things are discovered with every step."* *"...a puzzle because while researching we put pieces together to complete a picture in the puzzle."* *"...planting a tree because it takes time to grow and get to somewhere. When it does, you finally either get to harvest it or relax under its shade in the summertime."* *"...a puzzle because if we do not combine the pieces properly like in the puzzle, we can never reach the big image."*
Research as Exploration	7	*"...a space journey. Because when you start the journey you do not know what is in there and also both the research process and a journey to space is a very long process. You cannot still find the results which you expected to find even though you reach the end of the journey."* *"...mining because the results can be gold or just dust"* *"...a voyage, you know what might happen but some surprising facts can appear suddenly."*
Research as an Unending Cycle	7	*"...a matryoshka doll because when you investigate something, new questions come up to be answered."* *"...a bottomless well because the deeper one goes, the more information s/he is equipped with"* *"...an ocean because the researcher is in the middle of the ocean, and there are many other studies on the same topic with many different hypotheses and contradictions. It is too deep."*
Research as Enlightenment	4	*"...a telescope because it helps us to look at the stars (ideas) in the sky (in the classroom or in life) from different perspectives with a clear sight."* *"...a guiding light because it provides an opportunity to clarify the unknown."*
Research as a Contribution to Knowledge	4	*"...a key of a secret door that opens to knowledge because it helps people to find out unknown things or find an answer to problems that will improve humanity."*

		"...a journey to space because it provides a significant amount of knowledge that is important for the education of people about understanding of humanity and our planet."
Research as a Challenge	3	*"...doing yaprak sarması [stuffed grape leaves- a traditional Turkish dish laborious to prepare]. It is very exhausting until you make it but it is very delicious when you are eating."* *"...a highway because there are bumps on the road."*
Research as Individual Interpretation	2	*"...a new phenomenon because everyone could come to different conclusions, or see different perspectives."*
Research as Compassion	2	*"...a sapling thrown into soil because it can be a beautiful tree if it is watered and waited patiently. I mean, if research conducted patiently and carefully, it can turn into very well research."*
No Categorization	2	-
Total	41	

As reported in Table 3, the analysis of metaphors showed that research was most often depicted as a process. For example, one PST stated that research was like "*…climbing because it progresses step by step and new things are discovered with every step*". Also, research was delineated as an unending cycle in some metaphors. As one PST indicated, research was like "*a bottomless well because the deeper one goes, the more information s/he is equipped with*". Some PSTs also considered research as enlightening and contributing. In some metaphors, research was considered a process that is individually interpreted, and some PSTs thought it required compassion. For example, as one PST stated, "*Research is like a sapling thrown into soil because it can be a beautiful tree if it is watered and waited patiently. I mean, if research is conducted patiently and carefully, it can turn into very good research*". On the other hand, some PSTs thought research was challenging, yet only two of them provided metaphors carrying negative connotations. For instance, two PSTs stated research was like "*a hard dish to make because it takes so much time and effort*" and "*a highway because there are bumps on the road*". Still, two PSTs thought although it is challenging, one can benefit from it. One such metaphor was as follows: "*Research is like planting a tree because it takes time to grow and get somewhere. When it does, you finally either get to harvest it or relax under its shade in the summertime*".

4.3. Understanding of "teacher research"

Besides their understanding of "research" in general terms, PSTs were also asked to share their understanding of "teacher research" in line with RQ2. Findings are indicated in Table 4 and exemplified by sample excerpts.

Table 4.

Participants' understanding of "teacher research"

Theme	**Frequency (f)**	**Sample Excerpts**
Teacher research as a Means to Keep up and Improve	12	*"…teacher research is a requirement for teachers to get more proficient in the classroom. teacher needs to keep up with the times via research."* *"Research that a teacher does to improve his or her teaching capabilities…."*
Teacher research as a Means to Better the Teaching Environment	6	*"Teacher research is a way to investigate students' and teachers' interest for a better teaching and learning environment."* *"It means trying to find the *right* way to teach"*
Teacher research as a Means to Find Solutions or Answers	5	*"Research that a teacher does to ….find a possible solution for his or her classroom's problem."* *"Teacher research is being reactive to problems as a teacher. You see a roughness and act on it to rasp it out."*
Teacher Research as a Means to Understand Learning and Teaching Processes	4	*"I think teacher research means an investigation of the teaching/learning process. The results of particular research may reveal the pros or cons of that setting. therefore, the aim is to understand the learning processes."*
Teacher Research as a Means to Collect Information and Become More Informed	4	*"Teacher research is a good way for self-development because it offers teachers to understand students' believes or preferences regarding any kind of subject."*
Teacher Research as a Means to Be Helpful (to the field, students, colleagues)	4	*"Teacher research can help for example other teachers or other students from all over the world.* *"It is the study of a teacher who find out a problem and interested in his/her field of study. Teacher research should contribute to the literature and fill the gaps in teacher's research field."*

Teacher research as Systematic Investigation	1	*"Systematic investigation of a needed topic."*
Teacher Research as a Means to Become More Reflective	1	*"Teachers' practical solutions for becoming more reflective."*
Teacher Research as a Means to Guide Students	1	*"The research that is done by experts to orient the students."*
No category/ Irrelevant	7	-

As tabulated in Table 4, PSTs considered teacher research as a means to keep up-to-date and improve themselves (f= 12). For example, one PST indicated that "*It is something teachers should resort to enhance their teaching and have a better and updated grasp upon their profession…*" and another one stated that "*Teachers conduct research to catch the novelties and practical improvements in the field*". Moreover, PSTs thought that teacher research is a means to better the teaching environment (f= 6), find solutions or answers (f= 5), understand learning and teaching processes (f= 4), collect information and become more informed (f= 4), and be helpful (to the field, students, colleagues) (f= 4). To exemplify, one PST voiced that teacher research is a kind of research "*...conducted by teachers who do research to make the teaching and learning process more effective and more beneficial*" or, as another PST put forward, it is done by a teacher to "*….find a possible solution for his or her classroom's problem*". Albeit not commonly shared, some PSTs delineated teacher research as a means to become more reflective (f= 1) and guide students (f= 1). On the other hand, some conceptions were irrelevant or had no category (f= 7).

4.4. Conceptual Metaphors for "teacher research"

PSTs were also asked to provide a conceptual metaphor for teacher research in particular, in accordance with RQ2.1. A total of 40 different metaphors were created by the PSTs. Their analysis showed that the majority of them delineated teacher research with metaphors carrying positive connotations, and they thought that it is mainly guiding, improving, and contributing.

Table 5.

Conceptual metaphors with regard to "teacher research"

Metaphor category	**n of metaphors**	**n of metaphors having neutral or positive (+) connotation**	**n of metaphors having negative (-) connotation**
Guiding	8	8	-
Improving	6	6	-
Contributing	6	6	-
Problem-solving	4	4	-
Exploring	3	3	-
Following a Process	2	2	-
Being Detailed	2	2	-
Shaping	1	1	-
Requiring Compassion	1	1	-
Requiring Expertise	1	1	-
No Category	6	6	-
Total	40	40	-

As seen in Table 5, all the metaphors conceptualized teacher research from a positive and/or neutral perspective, whereas none of the PSTs delineated it with metaphors having negative connotations. The majority of PSTs delineated teacher research as a guiding (f= 8), improving (f= 6), contributing (f= 6), and problem-solving (f= 4) professional activity. In Table 6, a more detailed overview of metaphors is presented.

Table 6.

Participants' conceptual metaphors for "teacher research"

Code	Frequency (f)	Sample Excerpts (Teacher research is like…because….)
Guiding	8	*"...lighting up students' lives because a teacher is a guidance and a role model for children, and teacher research needs to provide better guidance techniques."*
Improving	6	*"...opening the doors to brighten both the teachers' own knowledge and their students' knowledge."* *"… watering a flower because it can make our teaching blossom"*
Contributing	6	*"...digging tools because it allows the teacher to go deeper than superficial knowledge regarding teaching/learning processes."* *"...a mirror because he or she reflects what s/he learned as a result of his/her research to his students"*
Problem-solving	4	*"...a surgery because the detected problem is solved with the help of the teachers' colleagues (other teachers' studies). At the end, the gap will be filled and the study (surgery) contributes to the working area."* *"...a rainbow that appears after the rain because it is really helpful to understand what the problem is and to produce solutions."*
Exploring	3	*"…exploring because as teachers conduct research, they can discover new theories in the education field."*
Following a process	2	*"...building an apartment because you have to do it step by step to do it strong. Research has to be done step by step to find a better solution."*
Being detailed	2	*"...a pomegranate because it may seem one but it could disperse"*
Shaping	1	*"...an architect because teachers are the ones shaping society"*
Requiring compassion	1	*"…a tree and the research is like water. I mean when the tree is watered, it will be more attractive and fruitful."*
Requiring expertise	1	*"...a locked treasure chest because it has lots of data in it but you have to know how to open it."*
No category	6	-
Total	40	

As reported in Table 6, most PSTs considered teacher research as a guiding, improving, and contributing professional activity for teachers. For instance, one PST stated that "*Teacher research is like an illuminated path because it leads the teacher candidates and teachers to enlightenment*", and another one indicated that "*Teacher research is like watering a flower because it can make our teaching blossom*". Another similar metaphor was as follows: "*Teacher research is like a workshop because it enriches the teachers' knowledge and their teaching skills. By this way, it puts them in collaborative contact with peers*". Most PSTs thought teacher research tends to affect not only teachers' professional knowledge but also teaching practices, thereby affecting students' performance in the classroom. As one PST indicated, "*Teacher research is like a mirror because he or she reflects what s/he learned as a result of his/her research to his students*".

4.5. PSTs' future research engagement with and in teacher research

Regarding the survey item probing into whether participants were planning to read research when they become teachers, findings indicated that most PSTs (*n*= 32, 78%) plan to read research (i.e., engage *with* research) when they become English language teachers. In contrast, few (*n*= 9, 22%) were indecisive and stated that they might just read research. Figure 1 shows the percentage of participants who planned or might plan to read research when they become English language teachers. As indicated in Figure 1, there were no PSTs who did not consider reading research.

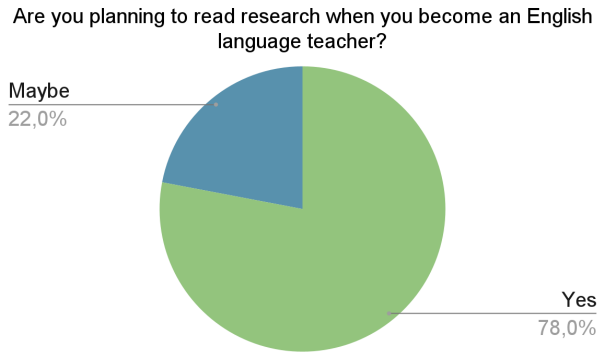

Figure 1. PSTs' aspirations regarding reading research in their future career

Once PSTs were further asked to explain the underlying reasons behind their responses, findings, as reported in Table 7, illustrated that the majority would like to read research due to the following reasons:

Table 7.

PSTs' reasons for reading research

Reason	Frequency (f)	Sample Excerpts
To improve and keep up-to-date	19	*"I am planning to read research to find better teaching ways, to follow the changes in education."* *"As a future teacher, I should keep myself updated. I should follow the studies so that I can learn what comes and to what extent it is effective."* *"We should keep our knowledge up-to-date. That's why we should reach new knowledge by reading."*
To learn	10	*"They can give a vision"* *"I am planning to read research because it helps me a lot to have a clear idea about any kind of topic that I would like to learn."*
To improve teaching skills	7	*"...it is important in terms of my teaching skills. If I read the studies about my field, I can integrate the implications to my teaching process."* *"Because research leads me to teach effectively…."*
To solve problems	4	*"I believe that I am or will be capable of finding solutions to my own problems about teaching. I will look for it if I end up on a dead end."* *"...the problems i encounter in the classroom can be solved by some researches conducted to find answers to these problems"*
To access shared knowledge	1	*"I will read studies, especially conducted by teachers, because their situations might be similar to my students."*
To find answers to questions while teaching	1	*"I will read research to learn about something I face in my teaching environment. I might consider counseling some problems with an experienced teacher instead of research because the academic research field is kinda intimidating for me."*
To be more aware	1	*"Reading research about your department or even about something irrelevant adds you awareness and a different point of view."*
No category/ irrelevant	4	-

As indicated in Table 7, PSTs stated they would keep reading research mainly for the purposes of improving themselves and staying up to date (f= 19) and learning (f= 10). For example, as one PST voiced, "*We should keep our knowledge up-to-date. That's why we should reach new knowledge by reading*". Another PST emphasized the importance of reading research to learn: "*It can absolutely help me to learn new techniques or pieces of information for my career*". Other than these, a considerable number of PSTs also indicated that reading research could have positive effects on their teaching skills (f= 7) and help them solve problems (f= 4) in their future professional lives.

Interview findings seem to concur with those of the survey. When PSTs were asked whether they plan to read research and the justifications for this, all the interviewees (*n*= 9, 100%) likewise stated that they plan to read research in their future teaching careers. Considering the pedagogical outcomes of reading research, all the interviewees agreed that it would positively influence their teaching in the future. As for the justifications, the most common reasons were pedagogical suggestions and improving teaching skills (f= 7). Interviewees thought reading research is a good way to learn and follow pedagogical suggestions from experts and thus improve their pedagogical skills. As Interviewee (Int) 2 put it, "*It improves my lessons, teaching, and new knowledge*". Another common reason for reading research was being able to follow recent and new findings (f= 5). Around half of the interviewees agreed that reading research is a good way to keep up with the most recent developments in the field and know about significant topics. To exemplify, as Int6 stated, "*....to develop myself and learn the up-to-date research and knowledge. There is a gap between teachers and the curriculum because teachers do not follow the literature and update themselves.*" As for less common reasons, the interviewees mentioned that research is reliable, and it can be used to find resources for lessons (f= 2). When it comes to the extent to which the research they read would influence their teaching as a prospective English language teacher, most interviewees (*n*= 7, 78%) suggested that it would have much effect on their teaching, whereas the rest (*n*= 2, 22%) mentioned that it would have an effect to some extent. Therefore, it can be encapsulated that all the PSTs agreed that reading research would improve their teaching, and most importantly, the majority thought it would have a very significant effect.

On the other hand, regarding PSTs' plans to conduct research (i.e., engage *in* research), survey findings differed. Findings indicated that whereas only almost one-third of PSTs (*n*= 14, 34.1%) indicated that they would conduct research when they started the profession, the majority (*n*= 26, 63.4%) stated that they might engage in research. Only one PST (*n*= 1, 2.5%) directly said no to the item. Figure 2 shows the responses regarding their future research engagement.

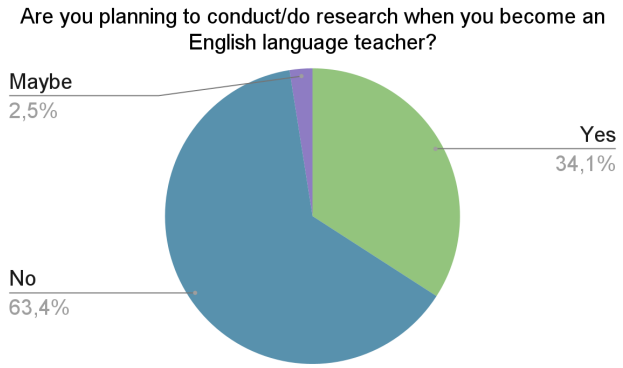

Figure 2. PSTs' aspirations regarding conducting/doing research in their future career

As to the reasons behind their responses, PSTs reported that they were or were not planning to conduct teacher research due to several different reasons. Table 8 summarizes the reasons behind their views.

Table 8.

PSTs' reasons for conducting research

Future engagement in research	**Reason**	**Frequency (f)**	**Sample Excerpts**
Yes	To solve problems	7	*"If I see a problem that has to be solved, I will try to solve that problem and I will conduct a study."*
	To be more knowledgeable and advance her/himself, improve her/his teaching skills	6	*"...I think that doing research in my field will make me more knowledgeable and advanced."* *"to improve my teaching and to help my students learn in the best way that I can do."*
	To be useful	5	*"To help myself and other teachers."*
	To collect information	2	*"Because I need to get some information about my class, the interests, opinion of my students about the lesson or something else."*
	To find answers	1	*"It will help me find answers to the related topics in the ELT department."*

	To learn	1	*"If I want to learn about a new topic that I am interested in I can do research"*
	To raise awareness	1	*"To raise awareness."*
Maybe		15	*"Actually, I want to conduct teacher research but I do not know whether I can do it or not."* *"I'm not sure about that because it takes a lot of effort and time"* *"I don't think I will need to. But, if I have to, I will"*
No		2	*"Well, I think it is appropriate for higher academic education."*
No category/irrelevant		2	-

As tabulated in Table 8, PSTs provided a variety of reasons behind their plans to conduct/not to conduct teacher research in their future professional lives. Regarding the positive comments, PSTs reported several different reasons, yet the most common reason was that they planned to conduct research to solve problems (f= 7) when/if they encountered any problems. Other popular reasons were to be more knowledgeable and advance themselves (f= 6) and be useful to the students, colleagues, field, and themselves (f= 5). Some also planned to conduct research to collect information, find answers, learn, and raise awareness. On the other hand, a number of different reasons were also stated regarding why some PSTs were not sure about their future engagement in research. Indeed, most participants stated that they might consider research if required or necessary conditions were met. For example, some PSTs stated that they could conduct research if they had to do so, or had time, or were really curious about something. To be more specific, they mostly described conducting research as a "tiring", "time-consuming", and "challenging" process. Some of them, in other respects, were not that self-confident. To exemplify, one PST thought that research is not among the responsibilities of teachers: "*Well I think it is appropriate for higher academic education*". On the other hand, two PSTs gave a definite no, and two explanations were irrelevant.

Semi-structured interviews also yielded similar findings. When asked whether they plan to conduct research (i.e., engage *in* research) when they become teachers, only a third of the interviewees directly said "yes" while another third said "maybe". In other words, around one-third of the nine interviewees rejected the idea of conducting research when they become teachers. However, quite interestingly, when they were asked if conducting research would improve their teaching skills, they all agreed that it would. As for the extent to which it would affect specifically, two-third of them suggested that it would have much effect. Two of them thought that it would have an effect to some extent, and only one of them

suggested that it would have a little effect. As for the reasons why they planned to conduct research or not, the most common reason for those who agreed was the pedagogic benefits it could offer. To exemplify, Int6 stated the following: "*Although it is difficult, I will do it to provide effective and more qualified teaching for students*". Other reasons mentioned by them only once were keeping up with the recent developments and being a researcher in the future. So, despite the fact that research was generally conceived as something theoretical, the interviewees reported that it would have positive effects on their teaching skills and lessons. Hence, it may be argued that PSTs conceptualized conducting research as a tool to improve their pedagogic skills primarily.

On the other hand, interviewees who did not plan to undertake research reported its difficulty as the most common reason. As Int7 mentioned, "*Especially doing analysis in SPSS was very difficult*". Int8 similarly indicated that "*If there is not a real need, no. I do not think I will need it. I can read about things I want to know or need; however, I do not think it is necessary to undertake it myself.*". Overall, the interview findings suggested that the main reason for not planning to undertake research was that it is a difficult and technical process. This indeed aligns with the survey findings. Some of the PSTs indicated that they abstained from doing research as they thought that it was difficult and required technical knowledge. Two other reasons mentioned only once were that doing research was associated with being a researcher, not a teacher, and that it was not necessary for teaching skills indeed as iterated by Int8 above as well.

Overall, the survey findings showed that, out of 41 PSTs, 15 of them (≈37%) stated that they would both read and conduct research (i.e., engage both *with* and *in* research) when they become teachers, whereas 17 of them (≈41%) stated they would read research (i.e., engage *with* research) yet that they might conduct research (i.e., engage *in* research). On the other hand, 8 PSTs (≈20%) indicated they might read and conduct research. Finally, there was only one participant who reported that she might read research yet that she did not consider conducting research when she started the profession.

Finally, the PSTs were asked to what extent the research they read and do would influence their teaching as English language teachers in the future. Regarding their responses with respect to reading research, findings illustrated that many PSTs (*n*= 19, 46.3%) thought that it would have a fairly strong influence on their teaching, whereas the rest thought it might have a moderate (*n*= 13, 31.7%) and strong (*n*= 9, 22%) influence on their teaching. As to the potential effect of doing/conducting research on their teaching, some PSTs reported that it would have a fairly strong (*n*= 16, 39%) and strong (*n*= 16, 39%) influence, while the rest thought it might have a moderate (*n*= 7, 17.1%) or slight (*n*= 2, 4.9%) influence.

5. Discussion and Conclusion

This study sought to investigate EFL PSTs' understanding and conceptions of teacher research as well as their aspirations for research engagement (i.e., both *with* and *in* research) in their future professional teaching career. Findings illustrated that the PSTs held positive opinions towards teacher research and being research engaged, delineating research as a contribution to knowledge and understanding, an answer, discovery and exploration, and an investigation, and teacher research as a means to keep up-to-date and improve, better teaching environments, find solutions or answers, and understand learning and teaching processes. Likewise, the metaphors they created conceptualized teacher research substantially as

guiding, improving, contributing, problem-solving, and exploring. Findings overall indicated that although the rates of PSTs planning to conduct research (engage *in* research) were lower than those planning to read research (engage *with* research), nearly all the PSTs were well aware of the importance of being research-engaged in terms of improving their teaching skills, as illustrated in survey and interview findings. Likewise, approximately all of them were aware of the importance of teachers' research engagement, as revealed by the metaphors and interviews. They delineated research mostly as a guiding, improving, and contributing professional activity from which not only teachers themselves but also students and other stakeholders' benefit. These findings are in line with the previous literature. To exemplify, Borg (2010) similarly found that the participants considered research as a systematic process. This is in line with one of the most common metaphors in this study, which is research as a process. Findings of this study are also in line with the studies that suggested that teacher research contributed to personal and professional growth (Kirkwood & Christie, 2006; Savaşçı & Rets, 2021; Şener, 2017; Tanış, 2019; Trent, 2012), keeping them up-to-date with new developments in the field (Anapa, 2019; Tanış, 2019), and improving problem-solving skills (Cabaroglu, 2014; Elmas & Aydın, 2017).

When the findings of the current study were considered regarding the two themes (research as an answer and research as discovery and exploration) that were quite common in the data, it was seen that these themes were also reported in previous studies. For example, Şener (2017) and Savaşçı and Rets (2021) reported that undertaking research contributed to personal and professional development. Another conforming finding is the findings on teacher research. The findings in the current study were in line with those of the previous studies such as Anapa (2019), Elmas and Aydın (2017), Zúñiga et al. (2021), and Tanış (2019) in that one of the common benefits of teacher research was reported as keeping up-to-date with new developments in the field (i.e., English language teaching). On the other hand, the findings of the current study showed that the participants were focused on the applied parts of teacher research in the sense that they mostly focused on how doing research may benefit teachers' pedagogic and content skills. In other words, the participants' responses suggested that they did not consider personal or intellectual development aspects of teacher research much.

Some of the findings of this study differed from those of some previous studies (e.g., Lombard & Kloppers, 2015; Van Katwijk et al., 2023), Ersoy and Cengelci (2008) being one of the exceptions, in that only a third of participants seriously considered conducting teacher research when they become teachers although they experienced educational research in their research course. Since this study did not adopt an experimental design, and therefore, collect pre-test data, whether PSTs changed their understanding over the course of time is not known. Still, it may be argued here that their final state was far from being satisfactory with regard to their attitudes towards undertaking research.

Borg (2010) argued that not only engagement *in* but also *with* research is needed. Yet, participants in this study usually focused on reading and benefitting from research rather than taking action. Namely, the PSTs in this study generally did not plan to undertake research. Therefore, this necessitates a comprehensive elucidation. One elucidation could be some of the metaphors they used for teacher research. Two common metaphors elicited were research as an unending cycle and research as a process. These metaphors delineated research as a complex, layered, and demanding task, which is why participants probably felt overwhelmed, as also supported by previous studies such as Ögeyik (2013) and Trent (2012). Hence, this may reveal some of the potential reasons as their conceptions are a part of their attitudes, which are mostly subconscious. The other elucidation may be their grade levels. Earlier studies in the literature generally focused on senior students; however, participants in this study had taken the research methodology course and undertaken research in the 2nd year (4th semester). As they did not have actual classroom experience within the scope of teaching practicum, they might have felt overwhelmed. For they did not even know and experience the problems encountered in real classroom environments,

expecting them to solve some potential pedagogic problems via research might have been far-fetched for them.

In this respect, it could be suggested that PST training programs are in dire need of increasing prospective teachers' willingness to conduct teacher research, and pre-service education period is a critical cornerstone. Accordingly, teachers should be immersed in research starting from the bachelor's degree, without focusing too much on theoretical aspects, and some of the findings shared in this study may be of use here. To exemplify, participants mainly avoided planning to conduct research thinking that it was very difficult and that it was not indeed a duty that teachers were expected to do (Anapa, 2019; Ersoy & Çengelci, 2008; Smith & Sela, 2005). As a solution, as Van der Linden (2012) also suggested, there is a need for changing teachers' attitudes and beliefs regarding this issue (i.e., it is not teachers' duty). At the pre-service level and by action research, they may be given the chance to see that research may be of use without delving into too many technical details. Therefore, having research courses in which they actually undertake action research and solve some practical problems will be of potential use as some researchers also supported (Gitlin et al., 1999). As also reported by Lombard and Kloppers (2015) and Van Katwijk et al. (2023) earlier, PSTs could feel anxious and insecure initially, but they start to feel more confident and positive about their research experience later on. Therefore, some hands-on experience is vital. Indeed, PSTs can be promoted to engage in collaborative action research (CAR), which has several benefits, including personal, social, cognitive, professional, and educational (Arefian, 2022).

To conclude, both reading (engagement *with* research) and doing (engagement *in* research) research could help PSTs understand the importance of being research-engaged as a teacher. Within this framework, it can be stated that PSTs' first encounter with teacher research and research engagement experience should be taken seriously because this experience could considerably affect their future research engagement. Therefore, academics offering undergraduate research courses should do their best to help PSTs understand the importance of research engagement in terms of contributing to their theoretical and practical knowledge by helping them adopt teacher-as-researcher identities.

Moreover, PSTs could be promoted to continue reading and conducting small-scale research during their practicum experience when they are senior students. Helping PSTs collaborate with in-service teachers would be rewarding for them as they would have a chance to identify, observe, and maybe solve a problem by engaging with and in research. If they see that the research they engage in has real-life implications, then they could make more sense of this research process. Collaborating with someone more knowledgeable and experienced could also boost their self-confidence. Therefore, PSTs should be encouraged to be research-engaged or informed not only in one or two courses, but also in other undergraduate courses in the four-year teacher education programs, particularly during their practicum experience in their senior year. As also indicated by Elmas and Aydın (2017), "...the role of teacher as researcher should be seen one of the significant roles to facilitate the foreign language teaching and learning processes" (p. 3099). In addition, considering the fact that there is only one Research Methods course in the current BA-level English Language Teaching curriculum in Türkiye, another course specifically focusing on teacher/pedagogic research (i.e., action research) may be offered at least as an optional course.

In conclusion, although this study offers some important insights regarding the undergraduate research methodology course and its potential contributions to PSTs' future teacher research engagement tendencies, findings should be interpreted in light of certain limitations which should be taken into consideration for further research: First of all, this study was conducted with Turkish EFL PSTs from one setting only; therefore, findings may not be generalized to other pre-service teacher education settings. Accordingly, future researchers are invited to collect data from more settings and, if possible, engage in cross-cultural comparisons, too. Another limitation is concerned with the methodology. This study was descriptive, and data were collected at a single point in time. Yet, future studies could be designed in a

way that they investigate PSTs' research experience over a longitudinal period of time, maybe over a semester or over the years. Also, experimental studies with PSTs having negative attitudes towards research engagement could be designed to observe any potential changes in their way of thinking. Accordingly, especially considering the fact that detailed metaphor studies have already started appearing in the literature, including the current study, it is high time new studies focused on dimensions above the description level. Moreover, PSTs' underlying beliefs were investigated through metaphor analysis in this study, but given that metaphor analysis is subject to the interpretation of the researchers, metaphors could have been interpreted in a different way. Nonetheless, inter-coder reliability was ensured by both researchers as priori to alleviate this limitation. Still, future researchers could collect extended qualitative data to better understand what PSTs actually think, feel, and experience regarding research.

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Appendix A-Survey

1. What does "research" mean to you? Please explain.
2. What does "teacher research" mean to you? Please explain.
3. Are you planning to read research when you become an English language teacher?
    a) Yes
    b) No
    c) Maybe
4. Why/Why not? Please explain briefly.
5. Are you planning to conduct/do teacher research when you become an English language teacher?
    a) Yes
    b) No
    c) Maybe
6. Why/Why not? Please explain briefly.
7. To what extent will the research you read influence your teaching as an English language teacher in the future?
    a) It will have no influence on my teaching.
    b) It will have a slight influence on my teaching.
    c) It will have a moderate influence on my teaching.
    d) It will have a fairly strong influence on my teaching.
    e) It will have a strong influence on my teaching.
8. To what extent will the research you do influence your teaching as an English language teacher in the future?
    a) It will have no influence on my teaching.
    b) It will have a slight influence on my teaching.
    c) It will have a moderate influence on my teaching.
    d) It will have a fairly strong influence on my teaching.
    e) It will have a strong influence on my teaching.

Appendix B- Metaphor Elicitation Task

1. Please provide a metaphor for "research" in the following format (For example, calling a person a "night owl" or "early bird", or saying "life is a journey" are common examples of metaphors).
    Please complete the following sentence:
    Research is like ..... because .....
2. Please provide a metaphor for "teacher research" in the following format:
    Please complete the following sentence:
    Teacher research is like ..... because.....

Appendix C- Interview questions

1. Are you planning to read research when you become an English language teacher? Why/ Why not?
1.1. Do you think the research you read will influence your teaching as an English language teacher in the future?
1.2. To what extent will the research you read influence your teaching as an English language teacher in the future?

2. Are you planning to conduct/do teacher research when you become an English language teacher? Why/Why not?
2.1. Do you think the research you do will influence your teaching as an English language teacher in the future?
2.2. To what extent will the research you do influence your teaching as an English language teacher in the future?