



**STOP AT THE RED LIGHT!  
DETERMINANTS OF RESEARCH IN  
TEACHER EDUCATION: P.I.S. THEORY**

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**Abstract:**

Growing body of studies has stressed the role of research in teacher education since conducting research informs both teachers and students, and contributes to professional skills. Therefore, this study aimed to find out and compare the perspectives of pre-service and in-service English teachers in an EFL context with regard to finding sufficient resources to conduct research, whether they are involved in research-related activities and find research findings applicable. Qualitative research method was used to get detailed responses from the participants and form a theory upon emerging themes and categories. The qualitative findings were further supported with numbers in the form of frequency and percentage tables to include both qualitative and quantitative means, utilize complementary purposes of words and numbers, and get the outmost profit from numerical and non-numerical data. There were 340 participants and it took more than about one year to collect the data. 290 pre-service English teachers from four different state universities and 50 in-service English teachers from 15 different cities participated in the study. The participants reflected their perspectives upon the importance of research in teacher education by answering questions in a written interview protocol (WIP). Statistical procedures were applied to form the frequency and percentage tables whereas constant comparison of grounded theory was used to code and categorize interview items, and form a theory summarizing the macro-level and micro-level factors affecting participant responses. The findings showed that there exist similarities and differences between pre-service and in-service English teachers. More than half of the pre-service participants (N: 147) and high majority of the in-service participants (N: 43) reflected unfavorable perspectives upon

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finding sufficient opportunities, following publications and feasibility of research findings. Additionally, the emerging categories of pre-service answers are more varied compared to in-service teachers. In general, the in-service participants were found to be more pessimistic about educational research more than the pre-service participants. At the end of the analysis P.I.S. Theory emerged to cover the determinants of research in teacher education. According to P.I.S. Theory, there exist three macro-level determinants namely Personal, Institutional and Stakeholder-related issues which shape the route of research in teacher education and include micro-level determinants. The findings point out the gap between university classrooms and school classrooms in terms of promoting research among teachers. Participant quotations also draw attention on their changing flow of teacher identity relating research in the course of trainings they go through in years. In light of the findings, it can be said that promoting research skills among students should go beyond integrating a compulsory course at graduate level, be handled with an across-the-curriculum understanding and further expand to bridge pre-service and in-service teacher education with a systematic approach through university-school collaboration and teacher-researcher collaboration.

**Keywords:** pre-service teacher education; in-service teacher education; action research; professional development; research skills; educational research

## 1. Introduction

Research on teaching and research on teacher education affect and shape each other since they are interrelated. What happens in real classroom settings inform the content and structure of research on teacher education so that what in-service teachers lack or need can be met during pre-service teacher education and what theoretically sounds applicable can be implemented in real educational contexts (Grossman & McDonald, 2008).

Student teachers need to be given the necessary opportunities to conduct research during pre-service teacher education programs and especially practicum so that they will be able to take responsibility for their own learning to teach, reflect upon their teaching experiences and become independent researchers in their future teaching career (Loughran, 2004).

Student teachers' research awareness and skills can be enhanced via an undergraduate course in pre-service teacher education programs. In a similar vein, Demircioglu (2008) questioned the effect of the educational research methods course on 74 student teachers in the faculty of education through a questionnaire in Turkish context and concluded that the participant student teachers enhanced their research

skills to conduct a small-scale project thanks to the educational research methods received.

Ulvik and Riese (2016) describe the importance of action research in pre-service teacher education as a never-ending story to improve student teachers' professional development in light of a case study conducted in Norway. They also found out that although student teachers encountered lots of obstacles, there were positive contributions to their teaching career thanks to the link of theory and practice. However, the highlighted aspect was the existence of sufficient time and space to reflect upon the experiences gained during research-based activities. In-service teachers also need to be guided to improve their professional competences and reflect upon their own educational practices with the help of gaining research skills (Impedovo & Malik, 2016).

To conduct research in educational settings, teachers need to be empowered with the required knowledge, skills, experience and motivation. A national research network could be established to sustain teachers' initial motivation, keep them awake throughout their teaching career and promote research awareness within educational settings (Murray, Campbell, Hextall, Hulme, Jones, Mahony, Menter, Procter, & Wall, 2009).

Teachers' beliefs about the feasibility of research studies is crucial for their professional development because teachers' beliefs shape their educational practices and the effect of practical experiences on research habits due to the interdependent relationship between belief and experience or theory and practice. According to Beycioglu, Özer and Uğurlu (2010), 68% of the Turkish teachers were found to appreciate the value of educational research for practical purposes whereas 32% of them reported that they did not take research findings into consideration in their teaching career. Although the majority of the participants held positive views upon the applicability of research findings, the proportion of the ones with negative views should not be underestimated due, in part, to highly context-bound of the educational settings and changing competences of student teachers graduating from different universities in Turkey.

The existing literature stresses the existence of opportunities and sources for student teachers and in-service teachers in order to reflect upon the current state of educational circumstances with regard to research. In parallel with the needs of the relevant literature and gaps in the previous studies, this study aims to find out and compare the perspectives of pre-service and in-service English teachers upon their research-based practices in an EFL context.

## 2. Review of Literature

### 2.1 Research in Teaching and Teacher Education

While conducting research in his/her own classes, the teacher is in fact trying to reflect upon his/her teaching practices and evaluate the current state of teaching career. The teacher may make assessments about the effectiveness of a new practice at the time of research application, which can be called reflection-in-action or after the research applications are over, which can be called reflection-on-action (Schön, 1987). In both ways, the teacher questions his/her professional knowledge and skills, and contributes to existing professional development (Schön, 1983).

In fact, what is expected from teachers is to balance between theory and practice. As to conducting research, the teacher is expected to put the theoretical rationale of research design into practice, in other words, to transfer what is thought at university into real teaching context. In this way, the teacher is trying to reach a synthesis by taking both academic theories and classroom realities into consideration (Sikula, 1996). When teachers meet colleagues with common goals in the educational research community, in a way they have the feeling of belonging and form a specific community of practice which includes collective learning and people working on similar or common problems (Wenger, 1998).

Teacher identity is affected by many factors throughout teaching career and it starts to be shaped with experiences as a learner, goes on with experiences as a student teacher and finally ends up with experiences as an in-service teacher, all of which also determines the decision of staying on the job or leaving the job (Joseph, 2011). When student teachers are exposed to the steps of conducting a scientific research, they are likely to be informed about the nature and importance of science (Cakmakci, 2012). In this application, the teacher educator who is the knowledgeable person and the guide approaches the student teacher as an apprentice via the transfer and demonstration of existing knowledge and skills regarding research.

Structure and quality of teacher education programs affect student success and educational outcomes. Therefore, it is only natural that integration or lack of research competencies in pre-service and in-service teacher education programs influences course objectives and learning outcomes (Wiens, 2012). In this regard, research studies conducted on teacher education need to be questioned deeply.

The relationship between teaching and research is open to debate. The interdependence of teaching and research on each other led to the question of whether research shapes teaching or teaching shapes research (Yee, 2014), resulting in a case similar to the chicken-egg issue. Teaching and research is simply interrelated since a research study starts with a problematic aspect in education, interventions or

applications are actualized via research, the outcomes of the research are employed and tested in education in terms of feasibility and appropriateness and finally feedback upon the previously formed outcomes paves the path for further research. This cycle goes on till the related problem is fully solved and appreciated by related stakeholders.

Research studies in teacher education progress in line with the related fields of research in that the trends and moves in research field deeply affect the structure and content of research studies in teacher education. Similarly, Pipere, Veisson and SalÓte (2015) examined the development of research in teacher education between 2005-2014 and concluded that understanding of research in teacher education evolved in parallel with research trends in education and sustainability. Based upon these findings, it can be claimed that research in teacher education is affected by research-related disciplines. As for research in English teacher education, it is affected by different disciplines because English language teaching stands at the junction where various fields of science like education, linguistics, psychology, business and research pass. In this regard, research on English teachers deserves closer attention and requires specific knowledge and skills.

## **2.2 Action Research**

Action research is a systematic and sustained study which is concerned with the improvement of learning-teaching activities (Souto-Manning, 2012).

Research skills have common aspects with some educational terms. Teachers' research competencies affect and are affected by other domains of teacher competencies. Thus, development in one area can influence the development in another area as well on the part of the teacher. For instance, action research has common characteristics with action learning in terms of paradigm, theoretical framework, praxis and program (Zuber-Skerritt, 2001). In this regard, when teachers are involved in action research, they reflect upon their actions, draw conclusions and make arrangements for their future teaching practices. In other words, while conducting action research, teachers learn from their actions, which prove the close relationship and common aspects of action learning and action research. Action research can also contribute to teacher qualifications and student achievement (Darling-Hammond & Youngs, 2002).

The teacher moves back and forth and follows a zigzag pattern while conducting an action research because s/he goes through certain stages before finalizing the research in that s/he first encounters a problem, then works on the causes and possible solutions, tries a new technique or application, gathers data, analyzes data, makes conclusions and finally makes plans for future teaching practices. Due to its repetitive nature, action research is regarded to have a cyclical and helix structure (Stringer, 2004) (Please visit Figure 1.)

Action research not only allows teachers to become researchers but also offers them opportunities to realize their strong and weak aspects in teaching profession. Therefore, action research helps teachers to reflect upon their own practices and gain deeper awareness about teaching-learning environment (Hagevik, Aydeniz, & Rowell, 2012).

Teachers may come across some difficulties while doing action research due to some internal (lack of motivation or research competencies) and external factors (outer and contextual problems). According to a case study conducted on early childhood teachers in Greece, the participant teachers reported that external factors resulting from age of the child, time limitations and stakeholder-based opposition created problems in applying action research in their institutions (Magos, 2012).

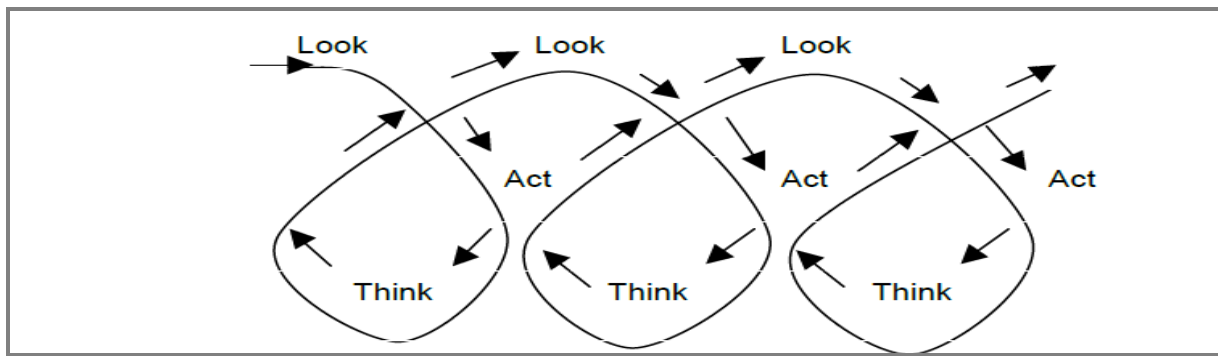
Teacher educators have a determining role in teacher action research because their applications and interactions with pre-service teachers and in-service teachers affect student success. Thus, teacher educators should also be involved in action research studies in order to make changes in professional competencies of teacher candidates and teachers, better the curriculum and transform the society in the long run (Souto-Manning, 2012). Since action research requires participation of various stakeholders and affect the whole education system including teaching education policies, deficiency or challenge in one link representing each different stakeholder will influence the other links and ultimately give harm to the whole system creating a domino effect. As in chaos theory (Gass, Behney & Plonsky, 2013), an overlooked area may cause a problem in one link, then it will spread on the other links and finally all the system can be negatively affected. In other words, a small change in one part of the system can impact the whole system. In this regard, practices of teacher educators will influence beliefs and practices of pre-service and in-service teachers, which will influence student practices and success in the long term.

The benefits of action research are appreciated for promoting reflective practices, enhancing self-efficacy and motivation and, aiding to tailor student needs and expectations. In this regard, research knowledge and skills are suggested to be included in pre-service teacher education programs (Barbre & Buckner, 2013). The role of action research for supporting professional development is emphasized (Hine, 2013) since it helps to identify problematic areas, reflect on new or innovative teaching practices and, offer a systematic approach (Hine, 2013) and concrete solutions to overcome the difficulties. The facilitating role of action research is appreciated by the related stakeholders (Mills, 2011) (Please visit Figure 2.)

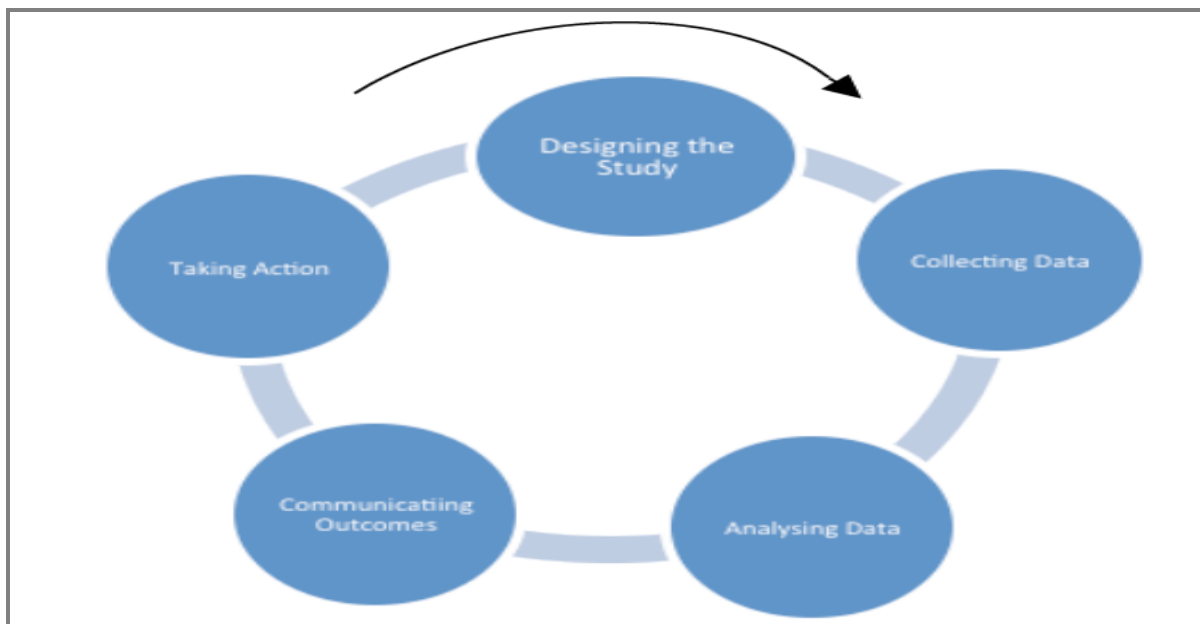
Vaughan and Burnaford (2016) reviewed the articles published upon action research between 2000-2015 and concluded that in graduate programs action research has grown into an integrative approach presented at theoretical and practical means.

They also found out that action research can be employed as a way of reflection, critical inquiry or teacher leadership depending on the institutional differences in the implementation of research integration into teacher education programs. Since each country adopts a unique style for promoting action research among student teachers and in-service teachers, the goals for including action research also change from country to country. While some countries aim to raise student teachers as researchers and make investments accordingly, some countries may not prefer promoting research skills among teachers and leave it as a personal choice on the part of teachers.

English language teachers can benefit from conducting action research to form and reform their teaching identity. Although they have some problems like time limitations, inadequate research competencies or lack of motivation, they can gain autonomous research skills in the course of time when engaged in various communities of practice (Yuan & Burns, 2016).



**Figure 1:** Action research helix (adopted from Hine, 2013: 154)



**Figure 2:** Action research cycle (adopted from Hine, 2013: 154)

### **2.3 Benefits and Challenges of Research in Teaching and Teacher Education**

Conducting research both informs the teacher about his/her teaching practices and turns them into expert knowers with regard to their classroom applications and student characteristics (Cochran-Smith & Lytle, 1999). As novice researchers, student teachers may come across some difficulties while conducting an educational research during pre-service teacher education (Brinkman & Van Rens, 1999). At this point teacher educators' intervention comes to the fore because they should give support and feedback upon how to progress in a scientific research.

Unless teachers are empowered with research knowledge and skills, they cannot conduct research on their students, transfer these skills to their students or be a model for them. Once teachers have got the research competencies, they can promote research skills among their students. Even teachers can use research as a way of formative or summative assessment for evaluating student performance if students themselves are involved in research-related activities (Stokking, van der Schaaf, Jaspers & Erkens, 2004).

Disseminating research results may create wash-back effect (Brown, 2004) on the part of the teacher. Like the effects on tests on student motivation and engagement, value of research results could influence teacher motivation. If teachers think that what they do and gain at the end of the study is not appreciated by the related stakeholders, they may underestimate conducting research in their classes. Thus, teachers should be guided by teacher educators and mentors about how to disseminate research findings, where to publish them in journals or when to present them in national or international conferences. Teachers should also be awarded with promotion or increased salary in order to sustain their motivation and encourage them to conduct research continuously. Inclusion of a research course may not be sufficient for student teachers to gain the necessary research skills. Effective educational implementations are also required for transmitting knowledge to them. In this respect, explicit instruction in the form of cognitive maps could be fruitful in pre-service teacher education (Kinchin & Hay, 2007). Teacher engagement in research not only helps to improve educational practices but also develops teacher autonomy in the long term (Benson, 2001) since it facilitates taking responsibility for professional progress (Borg, 2009).

Receiving research-based courses helps student teachers to be well-prepared for the complexities of real classrooms and makes inclusive practices feasible in teacher education. However, effective implementation of research for inclusive teaching practices attributes responsibilities for stakeholders like policy makers who determine the content and quality of pre-service and in-service teacher education (Alexiadou & Essex, 2016). When student teachers are provided with opportunities to utilize research



for an inclusive teaching practice as learners, they are likely to refer to these research competencies when needed as teachers.

#### **2.4 Research in Teacher Education across Countries**

There has been a large body of research upon pre-service and in-service teacher education in terms of integration of research skills in different countries. The studies on research in teacher education in different countries should be handled. In this sense, the understanding, route, shape and development of research in different educational settings attract attention.

The university–school research project initiated in New Zealand with the participation of teacher educators and teachers demonstrated how research experiences help teachers redesign the content and implementation of literacy classes (Thornley, Parker, Read, & Eason, 2004).

In Chinese context, primary school English teachers were found to adopt experimental research design in their research studies in order to improve their teaching practices and enhance student success. However, they did not favor publishing their findings (Gao, Barkhuizen, & Chow, 2010). In fact, the last step is not an end but indeed the start of a new cycle in teaching profession. Gaining research skills is one of the factors affecting teacher identity in line with the coming flow of practical experiences because the education received during pre-service education paves the path to be followed for the student teacher, the contextual features modify the understanding and application of research and finally the teacher reaches a conclusion upon his/her teaching identity. In light of a narrative study conducted upon 104 EFL (English as a Foreign Language) teachers in China, it was highlighted that a teacher's involvement in research practices and motivations for research play an important role on his/her professional skills and identity. Even stakeholder support and publications of research findings may create a new domain and need for teachers to head for research (Xu, 2013).

An introductory course on research in primary teacher education at pre-service level was found to contribute to knowledge, skills and attitudes of the participant student teachers in Dutch context (van der Linden, Bakx, Ros, Beijaard, & Vermeulen, 2012). Teachers need different kind and amount of support depending upon their teaching experience. The same claim could be made for the improvement of research skills among teachers. Likewise, a research course designed for experienced teachers in the Netherlands was found to enhance reflective practices of teachers but also emphasized the consideration of context-bound differences for an effective integration into teacher education (Leeman & Wardekker, 2014).

Wiens (2012) criticizes the lack of research on the effectiveness of teacher education programs in the U.S.A. and adds that there is still a missing link in the literature in terms of teacher education and student learning. This missing link is suggested to be compensated with the help of future longitudinal research upon the effect of teacher preparation programs on student achievement. van Ingen and Ariew (2015) reports that collaborative intervention is related to higher level of performance in teaching-learning activities in American context. They also add that such an intervention aids teachers solve their practical problems, form other research questions and methods to be followed for further action. In this way, what seems theoretical becomes practical and what seems abstract turns into concrete experiences. When the adequate amount of support is supplied and necessary knowledge and skills are gained, in-service teachers can conduct research in their own classrooms and share their research experiences with other teachers in different institutions, cities and even countries. In a similar vein, Moran, Bov, Brookshire, Braga and Mantovani (2017) developed a professional development model in which early childhood teachers from Italy and the U.S.A. exchanged their views and practices. In this way, teachers' research and intercultural communication skills will be increased and they will be encouraged to conduct research for their personal and professional development.

Engagement in action research in real classrooms increases the motivation of both teachers and students. English language teachers can also benefit from action research and conduct joint research studies in collaboration with other teachers, researchers or teacher educators. In a similar vein, as English teachers, Banegas, Pavese, Velázquez and Vélez (2013) conducted a collaborative action research by developing their own course materials in Argentinian EFL context and found out that the experience enhanced their professional development, increased their motivation and promoted autonomy in their classes. The newly developed materials were also found to provide students with ample learning opportunities to learn.

One of the studies which question the effectiveness of the course called Scientific Research Methods in Turkish EFL context belongs to Tosun (2014). In this study, 27 science education student teachers reported that their anxiety related to conducting scientific research decreased, the course was necessary and important, and finally they improved their research skills. Educational system in a country is one of the contextual factors which determine the factors for conducting research in educational settings for teachers. Highly-centralized Turkish educational system puts great emphasis on high-stake examinations that are based on reading, grammar and vocabulary. The structure of the national education system has been criticized for causing failure in terms of communicative skills of foreign language learners. The same focus on lexicogrammatical features of nation-wide examinations was also criticized for damaging

research skills of in-service teachers by restraining them in terms of time, lesson content, testing and financial resources (Kayaoglu, 2015).

Based on a large-scale international study conducted on 340 student teachers receiving education in Germany and England, it was found out that they should be put into inclusive research settings in different types of educational institutions with diverse student characteristics so that they can gain awareness about ethical issues and the effect of participant features and contextual factors on research intervention and interpretation of research results (Black-Hawkins & Amrhein, 2014).

Classroom-based action research results in a number of favorable changes on the part of the teacher in terms of teaching and learning. Focusing on English teachers in Palestinian context, Dajani, (2015) found out that action research enhances classroom practices, professional development, reflection and a supportive learning environment. A gradual approach can be employed to popularize research among teachers. Integration of a research-based course during pre-service education is one of the alternatives. Based on the views of 36 teacher educators and 36 student teachers in Norway, it was found out that teacher-centered research is more common than student-centered research and a great variation was identified among teacher educators in terms of their aims in conducting research and whether they are actively involved in research (Munthe & Rogne, 2015). These findings bring mind the question of whether teacher educators are research-oriented or teaching-oriented, and whether their research knowledge and skills affect research competencies of student teachers.

When teacher education is regarded as a circle and the relates stakeholders as the links in this circle, the lack of one element or a problematic aspect in one of them affects all the others in order, which can be associated with domino effect. When it comes to research skills of teachers, involvement of all the other stakeholders come to the fore in that the decisions of policy makers, rules of school administrators, financial resources and physical conditions of the school, and research skills, knowledge and teaching practices of teacher educators all come into play in research habits of a teacher. The problem in one domain (features of a stakeholder) affects the whole system (research competencies of a teacher). For example, in Irish context, it was found out that the mismatch between the decisions of policy makers and research competencies of teacher educators may ruin the research skills of student teachers (Gleeson, Sugrue, & O'Flaherty, 2017).

## **2.5 The Role of Collaboration in Research for Professional Development**

The dialogic collaboration between the researcher and teacher in the form of practical argument helps the real representation of teaching practices (Fallona & Johnson, 2002). Teachers need to be familiar with the terms and specific forms of vocabulary relating to

research. Otherwise, they may encounter difficulties while collaborating with a researcher (Goldstein, 2002). In order for teachers to be empowered with research-related lexis, they should be gradually exposed to the stages of a scientific research and supported with concrete examples with the help of high-quality publications like articles, books or project reports.

University-school network plays an important role in diminishing the contrasting aspects of declarative and procedural knowledge and building bridges between theory and practice. Highly-affected by implementation dynamics, conducting research requires professional knowledge and skills. University-school relationship is considered to ensure the continuation of research skills of teachers in educational settings to share, use and test the gathered results due to the factors resulting from members, relationships and context, and affecting the nature of research (Cornelissen, van Swet, Beijaard, & Bergen, 2011).

Teachers can be introduced to the stages of conducting a scientific research with the help of teacher educators, mentors or researchers in order to help them notice their role in research and encourage their engagement with research in their own educational institution. For instance, Bronkhorst, Meijer, Koster, Akkerman, and Vermunt (2013) showed that teacher-researcher collaboration could result in increased awareness of agent role of the teacher and integrated nature of intervention research in Dutch teacher education context.

Based on a collaborative action research project including university researchers and secondary school English teachers in China, it was concluded that an active and continuous collaboration between university and school as well as a supportive school climate is required to enhance teacher autonomy via research (Wang & Zhang, 2014). The collaboration between universities and schools is an emphasized aspect for promoting research in teacher education (Brown, Rowley, & Smith, 2014). The lack of a systematic approach to integrate research into pre-service and in-service teacher education may bring challenges on the part of teacher educators and school administrators. However, encountered problems can be negotiated via clarifying and balancing expectations of stakeholders in the course of time. Action research becomes more meaningful in the eyes of teachers and promotes teacher autonomy when there is collaboration between universities and schools. In other words, teachers can become autonomous and equipped with the required competencies if there is a bridge gathering theory and practice with the help of continuous collaboration between pre-service and in-service teacher education (Wang & Zang, 2014).

Teachers can benefit from different types of collaboration with researchers for professional development since the roles, tasks, the number of participants and the communication style adopted affect the way of participation on the part of the teacher,

and it is the teacher who questions and chooses the most appropriate type of collaboration with researchers that fits best with his/her own personal and professional goals (Schenke, van Driel, Geijsel, Sligte, & Volman, 2016). In light of the interviews with 12 teacher educators in Dutch context, it was found that engaging in collaborative research or master-apprenticeship relations not only informs the student teacher but also contributes to the professional improvement of the teacher educator (Geerdink, Boei, Willemse, Kools, & Vlokhoven, 2016).

## **2.6 Aim of the Study**

Although lots of studies have been conducted upon research habits of pre-service teachers and in-service teachers, there still needs to be more research studies on the perspectives of both parties to detect the problematic points, exemplify real teaching constraints and offer concrete solutions to foster research competencies among English teachers. Therefore, this study sheds light upon an overlooked area in teacher education by combining and comparing the perspectives of pre-service and in-service teachers and informing stakeholders about what is really needed or what lacks in educational settings to promote interest in research and enhance research skills of teachers.

In sum, the present study aims to answer the following research questions:

1. Do the participant English teachers think that they find enough opportunities to conduct research in their classes? Are there any differences between pre-service and in-service English teachers in terms of their perspectives?
2. Do the participant English teachers follow or participate in academic events in your field? Are there any differences between pre-service and in-service English teachers in terms of their perspectives?
3. Do the participant English teachers think research results are applicable? Are there any differences between pre-service and in-service English teachers in terms of their perspectives?

## **3. Methodology**

### **3.1 Research Design**

This study aims to collect opinions of pre-service and in-service English teachers about finding opportunities to conduct research, following academic publications and feasibility of research findings. Therefore, the study adopted a descriptive research design since the aim is to explain the phenomenon in question. Qualitative research method including frequency and percentage tables was applied to gather both numerical and non-numerical data and benefit from triangulation and complementary purposes of words and numbers (Cresswell, Plano Clark, Gutmann, & Hanson, 2003;

McKay, 2006; Dörnyei, 2007). The findings are displayed in the forms of frequency and percentage tables summarizing the findings and the tables are decoded with the help of detailed interpretation and explanation. The numerical representation is followed by the quotations of the pre-service and in-service participants. In this way, numbers and words witness and each other and methodological triangulation provide richer analyses. In other words, quantitative findings were qualified and qualitative findings were quantified (McKay, 2006).

### **3.2 Participants**

The universe of the study is the pre-service and in-service English teachers in Turkish EFL context. 340 participants were chosen with the help of convenience sampling which facilitates reaching the participants due to the availability and proximity of existing sources and participants (Dörnyei, 2007). In this regard, 290 pre-service teachers and 50 in-service English teachers participated in the study. The student teachers were chosen among seniors who were thought to have taken necessary theoretical and practical courses, and about to graduate in two months. The pre-service participants were chosen from four state universities in two different cities to increase the generalization of findings. As for in-service teachers, the researcher attempted to get formal permission from the related local authorities to apply the WIP at different types of schools in different cities. After getting the formal permission, the researcher visited some schools in two cities in-person and distributed WIP documents. In addition, the researcher contacted some other in-service English teachers via forums, social networking sites and personal relationships to reach a larger number of participants and increase the generalization of findings again. Ultimately, 50 in-service teachers working at various state schools in 15 cities participated in the study. In total, 340 English teachers shared their perspectives upon research in teacher education via the WIP.

### **3.3 Data Collection Tool**

The researcher aimed to get in-depth opinions of participants in a written form so s/he formed the written interview protocol (WIP) whose items were created based on the content of recent studies on teacher induction, teacher education and educational research. The WIP was sent to six academicians working at English Language Teaching (ELT) Department at two different universities in Turkey to collect expert opinion and ensure validity and reliability of the data collection tool. All the experts made some revisions and offered some suggestions upon the WIP items and the researcher made some changes in layout and linguistic expressions based on the feedback. Then, the revised WIP was sent back to the experts again to get their views. In the second round, two experts required some minor changes and the researcher made these changes. At

the end, all the experts who worked independently on the WIP agreed on the final shape, which was done to ensure face and content validity of the data collection tool.

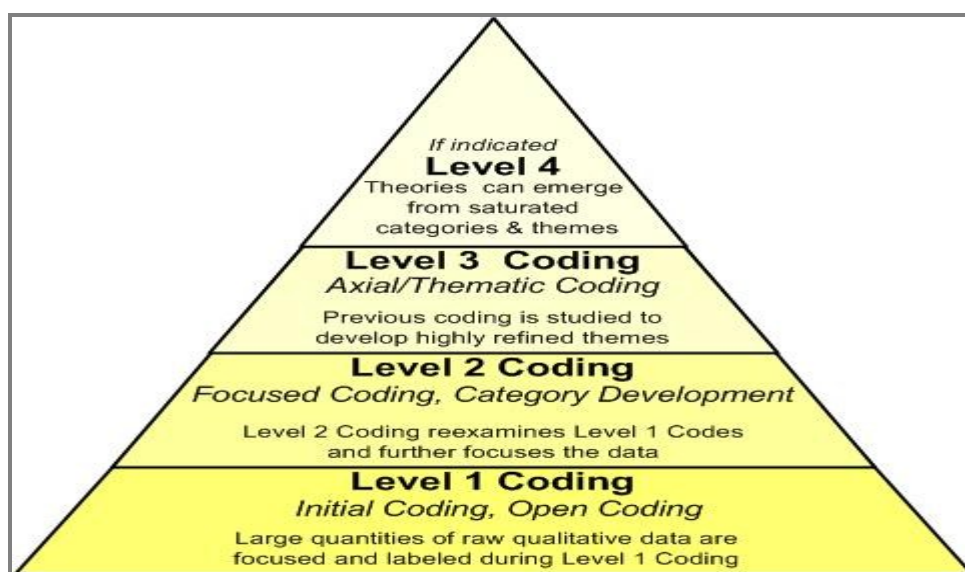
### **3.4 Application Procedures**

After the data collection tool, the WIP, took its final shape, the researcher began to get the legal permission from the Ministry of National Education. The researcher was rejected in his/her first attempt due to the wide of the school types indicated in the petition of application. S/he was redirected to another organ of the ministry called YEĞİTEK (Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü- General Directorate of Innovation and Education Technologies) and wrote another petition to apply the WIP on in-service English teachers working at state schools with different levels in different cities. The cities labelled as third level cities by TÜİK (Türkiye İstatistik Kurumu - Turkish Statistical Institute) according to the criteria of representing the economic and developmental features of the region were taken as the sample to conduct the study. After about one month, the researcher was informed about the acceptance of the application and given the formal document showing the legal permission to conduct the study. Then started to pay visits to schools, sent email to the teachers and reminded them several times to complete the WIP. S/he also contacted the academicians working at four state universities, sent them emails to explain the aim and content of the study, and take permission to apply the WIP during their courses. The contacted academicians replied positively to the researcher and allowed him/her to carry out the study during their courses by allocating special time. The researcher preferred to order some drinks and beverages to the participants at schools and universities to motivate them instead of making payment. It took 20-30 minutes to complete the WIP. The pre-service English teachers were applied to WIP during the second term of the academic year in April or May in 2015 so it took about one month to reach the pre-service participants. However, due to the lack of interest of some English teachers and variety of cities in different regions, it took about one month to reach the in-service participants. The researcher visited some schools several times and kept reminding some teachers via sending e-mails and short messages to complete the WIP. The in-service data collection procedures started around April 2015 and ended in April 2016. All in all, it took about one year to carry out the study and collect data.

### **3.5 Data Analysis Tool**

Data analysis tools were varied since there were both numerical and non-numerical data and the researcher attempted to draw conclusions from numerical and textual data (Nunan & Bailey, 2009). Frequency and percentage tables were formed on the basis of qualitative findings with the help of Excel program. Qualitative data coming from the

items of the WIP were analyzed with constant comparison method found in grounded theory, which is alternatively used for content analysis as well (Dörnyei, 2007). An independent second coder, a research assistant doctor working at ELT Department of a state university, was also involved in the data coding and analysis procedures to lessen the subjectivity of the qualitative data analyses. First of all, the second coder was informed about the aim of the study and provided with some results of previous studies to be well-equipped before starting data analyses. Both coders followed a zigzag pattern in that they moved back and forth while analyzing the written statements of the participants in line with the coming flow of data. In a way, the coders constantly compared the current statements with the old ones and new ones to be consistent while forming the emerging categories (Glaser & Strauss, 1980; Strauss & Corbin, 1998). They took the clues in the statements and put them into a table formed on Excel program to order the statements because each participant was given a code as a number to ensure anonymous participation and obtain in-depth views of the participants. Since both coders were informed about the relevant literature and research results in order not to miss important points or be left with irrelevant results, Informed Grounded Theory (Thornberg, 2012) was adopted in the present study. Getting the big picture from details requires passing some stages because forming the general framework out of non-numerical data necessitates devoting time and energy due to the repetitive nature of qualitative data analysis. When involved in data analyses, the coders followed the stages in that they went through open coding, focused coding, axial coding and selective coding in order to form a new theory based on the emerging topics and categories (Kolb, 2012) (Please visit Figure 3.)



**Figure 3:** Coding level pyramid (Hahn, 2008: 6)



Both coders first finished their coding and analyses and then revised the previously formed categories after three weeks to ensure intra-rater reliability. In addition, after 25% of the total qualitative was analyzed, the two coders held a meeting and compared their categories to find out the agreement levels according to the inter-rater formula suggested by Miles and Huberman (1994: 64). The inter-rater reliability formula was calculated to be 83% and the coders detected the disagreed categories. They mainly discussed upon some linguistic expressions which may lead them astray due to ambiguity and what to do with irrelevant answers. They also discussed upon the main and sub-categories. Finally, they agreed to exclude irrelevant answer in further analyses, include some disagreed sub-categories within the main categories, how to code statements with conditional clauses and statements with positive and negative claims. After the first meeting, the coders went on to analyze the rest of the qualitative data and when 100% of the data was analyzed, there was the second meeting where the intra-rater reliability was calculated again. In this regard, the inter-rater reliability was found to be up to 93%, which indicated a high level of agreement between the coders. However, both coders went on discussing upon the disagreed categories till there was complete agreement.

#### 4. Results and Discussion

It should be noted that this study reveals some parts of a large scale study and all the participants were coded in the order of participation. First of all, tables summarizing the findings are given and then it is followed by the interpretation of the tables and supported with pre-service and in-service participant responses.

**Table 1:** Participant perspectives on finding opportunities to conduct research

Answer Type	Pre-service	In-service	F	%
Positive	100	6	106	31.1%
Negative	147	43	190	55.9%
Suspicious	15	0	15	4.5%
Mixed	26	1	27	8%
Irrelevant	2	0	2	0.5%
Total	290	50	340	100%

Table 1 shows the frequency and percentage levels of the participants with regard to their perspectives on finding enough opportunities to conduct research in their (future) classes. More than half of the participants (N: 190; 55.9%) were found to have negative opinions about finding enough opportunities to conduct research while about one third of the participants (N: 106, 31.1%) held positive opinions. This is followed by the

participants who had mixed opinions (N: 27, 8%) including both positive and negative opinions or had statements with conditional clauses, and the participants displaying suspicion (N: 15, 4.5%) in their statements respectively. Finally, 2 participants (0.5%) gave irrelevant answers to the question.

Based on Table 1, it can be said that majority of the pre-service English teachers reported that they wouldn't find enough opportunities to conduct research in their future classes whereas in-service English teachers stated that they did not have enough opportunities to conduct research in their current classes. However, some pre-service participants seemed to be optimistic about finding the necessary opportunities to conduct research in their future career and some in-service participants were found to be content with availability of existing resources. To examine the underlying reason for the preferences of the participants, the findings of pre-service and in-service teachers need to be questioned separately and then compared to detect the similarity or mismatch in their perspectives.

**Table 2:** Pre-service participant perspectives on finding opportunities

Answer Type	F	%
Positive	100	34.5%
Negative	147	50.7%
Suspicious	15	5.2%
Mixed	26	9%
Irrelevant	2	0.6%
Total	290	100%

Parallel to the big picture, more than half of the pre-service teachers (N: 147, 50.7%) held negative opinions while about one third of them (N: 100, 34.5%) held positive opinions about finding enough opportunities to conduct research in their future classes. This is followed by the participants with mixed opinions (N: 26, 9%) including both positive and negative opinions and the suspicious participants (N: 15, 5.2%) who were found to be unsure about finding enough opportunities to conduct research in their future classes, respectively. Finally, 2 participants (0.6%) gave irrelevant answers to the question and excluded from further data analyses.

The pre-service teachers reported the rationale for their perspectives in their written statements and showed the underlying reasons for their choices. They listed the following factors as obstacles which are thought to hinder conducting research in their future classes: time limitations, work overload, contextual differences, student-related issues, administrative attitudes, financial problems, professional incompetency, lack of energy, compulsory schedule, lack of technological tools, physical conditions, classroom management problems and crowded classes. Below are some quotations of pre-service

English teachers in order to exemplify the emerging topics listed above. STE represents student teacher referring to pre-service participants and the following number represents the order of participation of the person.

STE 39: *"I don't think so because we would have so much duties and classes. I don't think we would have enough time."*

STE 243: *"If I become a teacher in MEB, I don't think I can because work-load and paper work will take a lot of time."*

Some student teachers (39, 243) thinks that s/he won't be able to conduct research due to work overload and time limitations while another one (40) stresses the unequal distribution of resources and materials across the country as follows:

STE 40: *"No, I don't think. Our country hasn't got "an equal of education and economic" on the whole parts of it, one school can't have a door in the one city, another school can be very well furniture in the other city."*

Covering the curriculum is another point considered to prevent teachers from carrying out research.

STE 98: *"I don't think so. Because I will have some compulsory schedule to be completed."*

Some think to be restrained owing to cultural differences and crowded classes as well.

STE 213: *"I could work away from my hometown. It would be difficult for me. I could have crowded classes. Some students may not know even Turkish. In fact, I don't know what to do."*

In contrast to the participant above, some student teachers think that they will find enough opportunities to conduct research. These participants list the following factors as facilitating for doing research in their future classes: efficiency of B.A. program (Bachelor of Arts), student desire, existence of options, disregarding contextual differences, availability of libraries and internet connection, technological improvement, private school features and personal abilities. For example, one of them (59) favors action research:

STE 59: *"I think there will be sufficient opportunities to conduct research because action research is possible in Turkish educational setting."*

Another participant (35) puts the properties of an English teacher as advantageous.

STE 35: *"Yes, I think an English teacher has many opportunities for international researches. I can confront for all problems."*

Some student teachers propose that disregarding obstacles depends on the teacher.

STE 38: *"Yes, I do. Although every school do not have same environment and same opportunities."*

*STE 80: "Finding the opportunities is not the problem. Taking advantage of them is."*

Technological improvement is another stressed aspect.

*STE 205: "Yes, technology is improving. Nothing is impossible."*

A number of student teachers held mixed opinions. They had both positive and negative opinions for doing research in their future classes or they made sentences with conditional clauses. Different working conditions and teaching contexts including school environments, cultures, cities, materials, crowd of classes and administrative board were the emphasized criteria for these participants. Changing contextual properties can be a situation which results in advantage or disadvantage:

*STE 60: "I think it depends on the place I will be a teacher. If I get a teacher in a village, I do not think that I will be able to have internet access. Therefore, I won't be able to conduct research."*

*STE 162: "I don't think because, there is a big difference between the west and east schools. I don't know where to study so it depends on the capacity of the school."*

Getting master's degree may push the student teacher to do research.

*STE 260: "I may, if I do masters degree."*

Availability or lack of resources also evokes suspicion on some student teachers (265). Likewise, the following student teacher (49) appears to be unsure about his/her research practices in future lessons due to institutional and stakeholder-related issues:

*STE 49: "It could be enough. I could confront some problems about school and students."*

*STE 265: "I'm not sure."*

**Table 3:** In-service participant perspectives on finding opportunities

Answer Type	F	%
Positive	6	12 %
Negative	43	86%
Mixed	1	2%
Total	50	100%

Parallel to the big picture and pre-service participant answers, high majority of the in-service teachers (N: 43, 86%) held negative opinions while about a number of them (N: 6, 12%) held positive opinions about finding enough opportunities to conduct research in their classes. This is followed by the participant with mixed opinions (N: 1, 2%) including both positive and negative opinions. There were no in-service participants with statements including suspicion or irrelevant answers. In-service English teachers were found to be more pessimistic about conducting research in their classes compared to pre-service participants. Constraints of real classroom settings could be an important

indicator of the mismatch between the perspectives of pre-service and in-service teachers.

The teachers with negative opinions emphasize the following items as limitations for conducting research: unequal opportunities, lack of personal interest, obligation to cover the curriculum, lack of planning, cultural differences, student misbehavior, unfavorable attitudes of stakeholders, limited space and time, crowded classes, classroom management problems, physical conditions, lack of student motivation, work overload and getting legal permission. It is seen that there are some common concerns between pre-service and in-service teachers regarding the obstacles to conduct research. T represents teacher and the next number refers to the order of participation. The following teacher (406) touches upon the general characteristics of foreign language teaching policies in Turkey and its negative results on carrying out research:

*T 406: "No; I don't. Because language teaching is not given importance in Turkey. For many years, it doesn't move forward. I think we will face the same difficulties unless; new and contemporary steps are taken in language teaching. There are many problems for different reasons. Unmotivated students who don't want to learn a language, lack of materials and technology, crowded classrooms, insufficient coursebooks (most are written by Turkish writes which create big problems in teaching) etc etc. So, we must be realistic. They can't be handled by an individual teacher. The Ministry of Education must make radical changes in language teaching."*

Another teacher (412) points out the work overload and difficulty of getting permission from legal organs to conduct research at state schools:

*T 412: "MNE depend highly on paper works as I aforementioned. If someone wants to do a research, s/he has to take permission from managers or so on. There could be permission problems."*

Some teachers may not prefer doing research due to lack of motivation for improving personal and professional skills depending on school capacity and learner characteristics:

*T 430: "I don't need to do any research for my classes, I have time and opportunity but for what should I do it for. But if I was working in a better school with high capacity students then maybe I would've needed to update myself."*

The teachers with positive opinions replied with short answers like "Yes" "Yes, I do" or "Yeah" without revealing any details which cause them to reply in that way. Two of the teachers (419, 421) highlighted the active role of the teacher in disregarding the negative contextual differences and creating a positive environment by themselves.

*T 419: "I encounter some difficulties but still I do my best."*

*T 421: "I form the environment myself."*

Finally, one teacher (450) indicated that contextual differences have a determining role for conducting research.

*T 450: "I believe that it depends on the administrative board of the schools. My school directors are really supportive and thus my answer is yes."*

**Table 4:** Participant opinions on following academic events and feasibility of research results

Answer Type	Pre-service	In-service	F	%
Positive	101	18	119	35.7%
Negative	149	26	175	52.4%
Mixed	35	5	40	11.9%
Total	285	49	334	100%

In the next question, the participants were asked whether they follow academic events and whether they find research results applicable. According to Table 2, more than half of the participants (N: 175, 52.4%) had negative opinions while more than one third of them (N: 119, 35.7%) had positive opinions and finally a small number of them (N: 40, 11.9%) had mixed opinions consisting of both positive and negative opinions or statements with conditional clauses. Based on Table 2, it can be claimed that the participant English teachers are not actively involved in academic events frequently and do not consider research results applicable in real classroom settings.

Pre-service and in-service participants' opinions are separately given to compare the emerging topics and categories.

**Table 5:** Pre-service participant opinions on following academic events and feasibility of research results

Answer Type	F	%
Positive	101	35.5%
Negative	149	52.3%
Mixed	35	12.2%
Total	285	100%

Table 5 demonstrates that more than half of the pre-service English teachers (N: 149, 52.3%) do not regularly follow academic events related to ELT and do not consider research results applicable in real classroom settings. However, more than one third of them (N: 101, 35.5%) hold positive opinions about the two items and a number of them (N: 35, 12.2%) have mixed opinions covering both positive and negative opinions or statements with conditional clauses.

Students with positive perspectives valued participating in academic events in their field and following related publications. They found such activities useful for their

development and showed intention for their future actions. They were found to believe in the applicability of research findings since they provide them with application opportunities, broad their vision, help them gain different perspectives, improve their teaching skills and thus contribute to their professional development.

Some student teachers (38, 112) see involvement in academic activities as a way of improving personal skills and do not find their current research competencies enough:

*STE 38: "Actually I try to follow something but it is not enough for me. I should develop myself in this topic."*

*STE 112: "Yes, but I should improve myself."*

Participation in field-related events can update student teachers (39) and equip them with research (40) skills and teaching techniques (76) to apply in their future classes.

*STE 39: "Yes. I participated a few events. I had an opportunity to see the last development in the field."*

*STE 40: "Yes, I participate some conference in METU, Hacettepe and in my university. Yes, I think the research results will be more useful in my future job career."*

*STE 76: "I participate in some ELT conferences and I think they teach me some techniques I can use in my future classes."*

Engagement with research-related events is thought to broaden the vision of student teachers:

*STE 77: "I have joined in some conferences related to my job. Of course they will be applicable because I had a chance to listen the most important academicians in my field. At least it helped me to broaden my vision."*

Familiarity with research culture improves student teachers' teaching skills (150) and affects their future behaviors (288).

*STE 288: "I attend some seminars related to ELT, I also have a chance to read some articles about teaching experiences I learned a lot of useful information and I am planning to implement from in my classes."*

*STE 150: "Yes. The results are improving our teaching skills."*

On the other hand, student teachers with negative opinions found research results not useful, hypothetical or too theoretical. They also touched upon time limitations which prevent them from joining academic events or following publications. Due to lack of introduction, theory-practice gap and general situation of the education, the student teachers may display unfavorable attitudes towards conducting research.

*STE 47: "No. until now a lot of instructors have participated in academic events still the education in our country is getting worse. Academic events are not necessary."*

Research results are criticized for being hypothetical and inapplicable in Turkish EFL context:

STE 58: *“These research results are hypothetical for our country. A few of them can be applicable in our country.”*

Student teachers seem to lack enough opportunities to participate in academic events and find results theoretical:

STE 92: *“I am not given enough opportunity. It is theoretical.”*

Time limitations are another frequently mentioned obstacle to prevent participation and follow of academic events:

STE 240: *“I don’t have much time to follow or participate. There are KPSS, homeworks, teachings, etc.”*

As for student teachers with both positive and negative opinions, they find research results good but not realistic while some emphasize reliability criteria. Theory-practice gap and existence of (un)realistic research results are among the factors which push these participants to hold both positive and negative opinions. All in all, these participants either do not participate in academic events and appreciate the practicality of research results or value following new teaching trends.

While some student teachers cannot participate but believe in the applicability of research results (44), some other attends academic events but find the results utopic (52):

STE 44: *“Actually, I cannot participate in academic events in my field. Research results will be applicable in my future classes.”*

STE 52: *“Yes, I attend to ELT conferences in lots of universities. In my view, researches are above from the level of Turkey’s level in education so I find them a bit utopic.”*

For these participants, the research results could be realistic or unrealistic depending upon the research

STE 85: *“Some of them are applicable but some of them are unrealistic.”*

Applicability of research results are mostly questioned in spite of participation in academic events:

STE 245: *“Yes, I participate in ELT seminars and conferences. But, those are mostly based on theory and not practice so I think I wouldn’t make use of them much.”*

**Table 6:** In-service participant opinions on following academic events and feasibility of research results

Answer Type	F	%
Positive	18	36.8%
Negative	26	53%
Mixed	5	10.2%
Total	49	100%



Table 6 shows that more than half of the in-service English teachers (N: 26, 53%) do not regularly follow academic events related to ELT and do not consider research results applicable in real classroom settings. However, more than one third of them (N: 18, 36.8%) hold positive opinions about the two items and a number of them (N: 5, 10.2%) have mixed opinions covering both positive and negative opinions or statements with conditional clauses. It is seen that there are great similarities between pre-service and in-service participants in terms of their perspectives about participating in academic events and applicability of research results. Based on the percentages, it can be said that majority of both groups possess negative perspectives about involvement in research-related activities and do not find research findings feasible. The following participant quotations reinforce the findings presented in Table 6.

Some teachers with positive perspectives were found to have an M.A. degree and encouraged by some of the educational hardships encountered in English classes to conduct research:

*T 412: "I had an MA in this field. Also, I was inspired by one of my in-class problems."*

Another participant points out the availability and practicality of action research:

*T 450: "Of course, I follow. I think some of them especially classroom research are applicable."*

However, majority of the in-service teachers think that it is hard to participate in academic events and apply the results in their own classrooms. Lack of feedback, context-bound obstacles and time limitations are among the most cited problems that teachers face. For example, the following teacher (404) stresses the importance of feedback:

*T 404: "No. they are applicable only if we get feedback on how to apply them properly."*

The teachers (406) mostly complained about the hindering effect of contextual differences and being a new or beginning teacher is thought to affect research skills (431):

*T 406: "I don't think results are applicable. Because, we have different kinds of schools with different advantages and disadvantages. Academic Researches are applied to certain conditions, not a wide range of educational condition. So they can't handle so many varieties and differences in education."*

*T 431: "No, I don't. I am new in my school. I don't have any idea about research results. But I don't think they are applicable in my classes."*

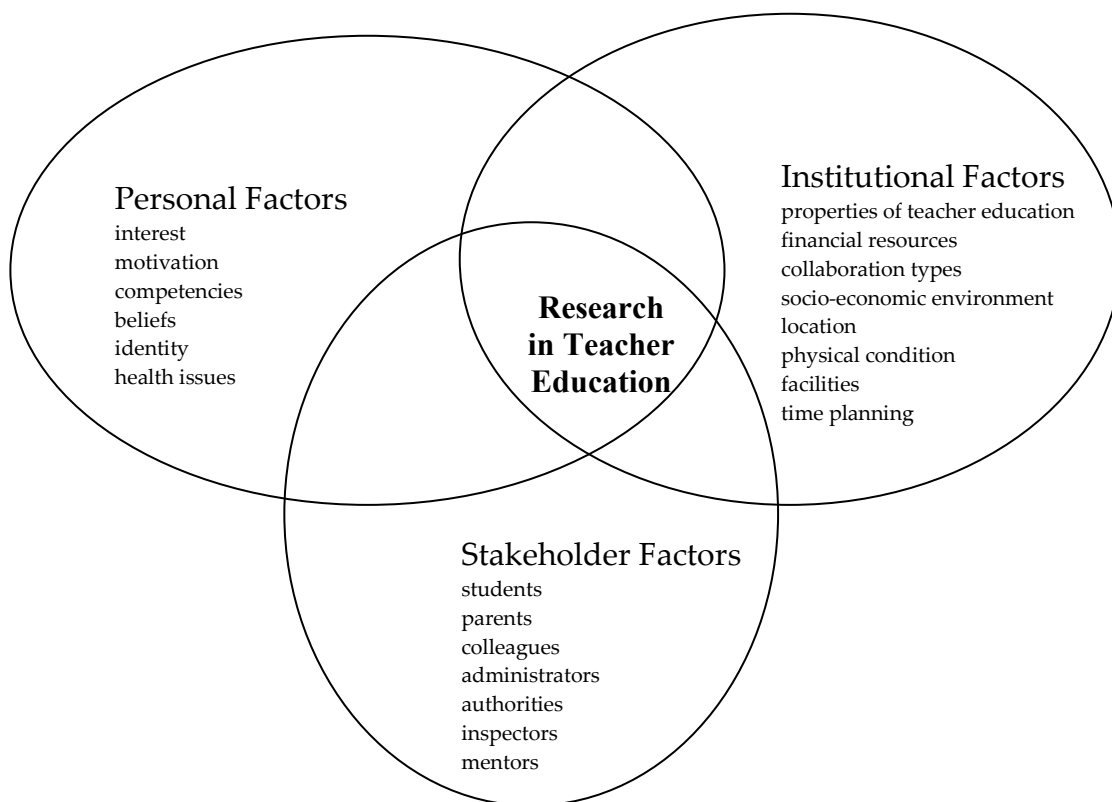
Having health problems may be a problem for some teachers to carry out research:

*T 434: "I cannot follow or participate academic events because of my serious health problem, but I want to do so much!"*

Time limitations and stakeholder oppression to prepare students for high-stake examinations can discourage teachers to carry out research in their classes and cause them to underestimate the applicability of research results:

*T 433: "I can't follow because of the lack of the time. If I could, I don't think I could apply them, because authorities and the families just expects us to increase the success of the TEOG exam."*

In light of the findings, it can be claimed that research in teacher education is mainly affected by three factors namely personal, institutional and stakeholder-related issues. In other words, research in teacher education lies at the intersection point of the acronym P.I.S. Theory (Please visit Figure 4.)



**Figure 4:** Determinants of Research in Teacher Education: P.I.S. Theory

According to P.I.S. theory, there are personal, institutional and stakeholder-related issues which influence the direction and structure of research in teacher education. Personal factors include pre-service teachers' and in-service teachers' interest, motivation, beliefs, identity, experiences, competencies (including professional knowledge and skills) and health issues. Institutional factors include properties of teacher education (properties of pre-service and in-service teacher education in different cultures within the same country or across the cultures), financial resources (funding, increases salary) collaboration types and duration (university-school &

teacher-researcher), socio-economic environment, location, physical condition (crowd of classes, seating arrangement, space limitations, technological tools), time planning (time allocation or limitation) and facilities. Finally, stakeholder-related issues include students (misbehavior, lack of interest, motivation and participation), parents (interruption, oppression, lack of interest), colleagues (feedback and support of experienced peers, assisting new/beginning teachers to administrators (support, objection, guidance), authorities (policy makers at local and national levels, allowing or rejecting legal permission, funding awarding teachers with increased salary and/or promotion), inspector (valuing research as an evaluation criterion), mentors (guiding how to conduct research, what publications to follow, how to publish and how to disseminate research results).

There are macro-level and micro-level determinants in P.I.S. Theory. The macro level determinants are the general factors which are comprehensive and form the three pillars of the big picture, that is, the theory itself while micro level determinants are the specific factors listed under the general factors and reveal the details. In other words, in light of the emerging topics and themes, the macro-level determinants are based on the main categories while micro-level determinants are based on the sub-categories. For instance, personal factor is a macro-level factor while teacher motivation is a micro-level factor; stakeholder-related factor is a macro level factor and student is a micro-level factor.

#### **4. Conclusion**

This study aimed to find out and compare perspectives of pre-service and in-service English teachers in Turkish EFL context. At the end of the analyses, it was found out that there exist great similarities between the two groups of participants. The general picture shows the dominance of pessimistic perspectives of the participants because more than half of the participants (N: 190; 55.9%) have negative opinions about finding enough opportunities to conduct research and more than half of the participants (N: 175, 52.4%) had negative opinions about following academic events and applicability of research results. The percentage tables of pre-service and in-service teacher perspectives are parallel to each other. However, the in-service teachers were found to hold negative perspectives compared to the pre-service teachers.

Similar to Gao, Barkhuizen and Chow (2010), the participant English teachers did not favor publishing their findings. As for student teachers, they seem to suffer from time limitations (Ulvik & Riese, 2016) due to homework, practicum procedures and preparation for the high-stake examination called KPSS which teacher candidates in Turkey have to pass in order to become an in-service teacher at state schools. In-service

teachers also suffer from time constraints (Magos, 2012) due to paper work and effect of nation-wide examinations since they are expected to educate students to get a high score in these examinations and educational success is evaluated by student scores (Kayaoglu, 2015).

In contrast to Beycioglu, Özer and Uğurlu (2010), who found out that majority of the Turkish teachers appreciated the value of educational research for practical purposes, this study revealed that more than half of the participants (N: 190; 55.9%) had negative opinions about finding enough opportunities to conduct research and again more than half of the participants (N: 175, 52.4%) stated that they do not regularly follow or participate in academic events or do not consider research results applicable in real classroom settings.

Lack of participation in academic events may result from financial problems, lack of knowledge, interest or awareness and time limitations (Murray et al., 2009). In addition, lack of faith in feasibility of research could result from the nature of teacher beliefs. Once formed, teacher beliefs may resist change in the course of time. The best way to modify beliefs can be achieved via providing teachers with experiences where they actively apply the same research by adopting the methodology and instruments in their own classes. Only in this way can they be persuaded about the concrete benefits of research results. Thus, they should be guided by teacher educators and mentors upon how to implement research in their classes (Souto-Manning, 2012) and how to get outmost profit from the research results in practice in order to increase student achievement and improve professional competencies.

While some participants prioritized the effect of contextual differences on carrying out research in educational settings (Leeman & Wardekker, 2014; Black-Hawkins & Amrhein, 2014), some participants challenged the existing contextual hardships and lack of professional competencies stating that disregarding or taking advantage of the current sources and opportunities is more important than being obsessed with lack of support or feedback. They also stress the role of their personal efforts to improve themselves as researcher. Regardless of the internal or external constraints, it is the teacher who allows or rejects the circumstances to develop or hinder him/her. In this regard, the importance of self-determination theory (Deci & Ryan, 1985), which integrates both intrinsic and extrinsic motivation types because external goals of the individual may be internalized and become internal goals after a while based on new teaching experiences. Such an internal-external motivation balance is at the hands of the individual with differing levels of control and both types of motivation can co-exist within the individual.

Student teachers should be introduced to the merits of research before graduation and teachers should be given professional support by stakeholders

(Alexiadou & Essex, 2016) so that what is learnt during pre-service teacher education will work in in-service teacher education. In this regard, university-school collaboration is of great importance to ease the adaptation process of beginning or new teachers and foster their research-based competences (Cornelissen, van Swet, Beijaard, & Bergen, 2011; Wang & Zang, 2014; Brown, Rowley, & Smith, 2014). If teachers' research-related qualifications are supported at national level, they will feel encouraged to participate in international events like projects, meetings, conferences and symposiums to present their research results to the audience from different countries.

The importance of publication of research findings should be promoted among teachers (Xu, 2013) via giving examples, mentoring how to publish in journals or providing alternatives like conferences and symposiums so that teachers will be informed about what path to follow in order to disseminate their results. Once they are involved in national or international meetings or publish in journals, they may appreciate sharing their research results with stakeholders because it is likely that they will feel rewarded, which in turn will increase their motivation for conducting more research in the future.

To ensure effective continuation of research competencies, student teachers should be introduced to the basic terms of research, given examples to examine what steps were followed and be required write a graduation thesis to test whether they can conduct and report a research. In addition, in-service teachers should receive professional help from teacher educators and mentors to conduct a research and publish the findings via in-service trainings, be supported financially by the government and ultimately be rewarded like increased salary or promotion. In this way, they might become more motivated to conduct research and disseminate the results. In Turkey, student teachers receive a compulsory course called research methods but the content and implementation of the course varies greatly from university to university since each one attached a different degree of importance to research skills of student teachers. When they become in-service teachers, they are not guided or informed about how to conduct research, interpret data and share the findings via publications or conferences except for some individual efforts to make a project or get a promotion. Therefore, there should be a gradual popularization of research competencies among teachers beginning from pre-service teacher education programs and actively going on in in-service teacher education programs so that what is theoretical becomes practical and teachers get the chance to improve their teaching practices and professional competencies.

The findings demonstrate that intervention on pre-service or in-service teachers in the form of a compulsory course yields positive outcomes. Based on this conclusion, policy makers can go one step further and encourage research skills both pre-service

and in-service teacher education programs (Gleeson, Sugrue, & O'Flaherty, 2017) through compulsory graduation thesis writing, providing financial resources and administrative support, rewarding teachers conducting research and publishing results financially such as academic incentive allowance which has been used in Turkey for the promotion of publication among academicians working at universities. The same procedures can be adopted for teachers working at state schools across the countries so that they will feel that what they are doing is appreciated by formal organs and get motivated to engage in research in the future.

To apply new educational practices and revise teaching competencies in real school environments, student teachers need to breathe the air of research during their pre-service teacher education and feel it in their practicum. In this way, research becomes more meaningful and feasible in their eyes, and they can refer to the past concrete experiences to carry out a research or try a new technique in their future classes when they become in-service teachers. While testing educational innovations, they will also be appreciated by their students and taken as model, which will trigger inquiry-based learning and foster learner autonomy as well.

In light of the macro-level and micro-level factors, P.I.S. Theory has emerged as the determinants of research in teacher education. In this theory, there are Personal, Institutional and Stakeholder-related factors which affect the content and structure of research in teacher education. Teacher's involvement in research is affected by multiple determinants like teacher motivation (personal), school environment (institutional) or student behaviors (stakeholder-related). In this regard, the teacher is affected by both internal or external drives and becomes motivated or demotivated due to the availability or lack of internal and external causes which impact on teacher engagement in research. To promote research among teachers, resources need to be equally distributed to schools, and each teacher should be given the necessary opportunities at institutional, national and international level via a common research network to participate in academic events. While some schools are equipped with the needed staff, technological tools, funding resources and a supportive culture; some schools might be located at disadvantaged areas, lack technical equipment and staff or in need of financial sources and qualified teachers.

If teaching is a long journey and the teacher is trying to reach the final destination, then s/he is not alone and is influenced by many factors. If we make an analogy to the traffic elements, the teacher is a pedestrian walking on the road, waiting in the junction and trying to reach his/her destination. The road may be smooth or rough, the weather may be hot or cold and the traffic may be heavy or not. Regardless of these factors, s/he has to reach the destination. When the pedestrian is associated with the teachers, the picture becomes more visible. The pedestrian is the teacher who is

trying to find his/her way to reach the final destination, professional development. The teacher may work in schools with a supportive climate (smooth road) or encounter various difficulties (rough road) while trying to be involved in research to improve his/her professional skills. S/he could get the legal permission or denied by the local or national authorities (weather conditions) while conducting research or disseminating the findings. Since ELT is affected by many disciplines, so is research in English teacher education (the junction). The teacher makes an evaluation of the existing sources and opportunities to conduct research and participate in academic events like a pedestrian follows the traffic lights to go across the road. The teacher conducts research when supported like a pedestrian goes across the road after the green light or makes preparations when partially supported and puts forward his/her own competencies like a pedestrian makes preparation to cross the road at the yellow light. However, the teacher may not conduct any research due to lack of motivation, student misbehaviors or lack of administrative support and decide to give up involving in research-related activities like a pedestrian who has to STOP AT THE RED LIGHT!

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