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STUDENT TEACHERS OF ENGLISH AS RESEARCHERS: BELIEFS, ATTITUDES, AND PRACTICES

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STUDENT TEACHERS OF ENGLISH AS RESEARCHERS: BELIEFS, ATTITUDES, AND PRACTICES

(Doctoral Dissertation)

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ABSTRACT

For this study, a module called Student Teacher Research Module (STRM) has been developed as a component of the school experience course in an English Language Teaching Program in Turkey and small-scale research projects have been promoted within the scope of this module in order to enable the student teachers to develop as teacher-researchers. One of the purposes of the study is to understand student teachers' conceptions of research. Another purpose of the study is to investigate how student teachers' attitudes towards research develop throughout the integration process. Finally, the perspectives of the participating student teachers about the module are explored. Sixteen student teachers have participated in the study. The first two sections of Borg's (2009) "English Language Teachers' Views of Research" questionnaire, follow-up interviews for the questionnaire, pre and post- interviews and reflective journals are used as data collection tools. The results show that the participating student teachers' conceptions of research have changed during the integration of the module. It is also found that student teachers develop positive attitudes toward teacher research over time. The perceptions of student teachers who have completed the integrated module as a component of the practicum course are generally very positive. Although some student teachers initially express a degree of apprehension before they embark on their research projects, they make highly positive remarks during and at the end of the process. The participants report that the module affects their confidence in the classroom, particularly to try out new ideas, and it often gives them

greater insight into students' learning. The findings produce significant results for English language teaching programs.

Keywords : Student teachers as researchers, teacher research, pre-service teacher education

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ARAŞTIRMACI İNGİLİZCE ÖĞRETMENİ ADAYLARI: İNANÇ, TUTUM VE UYGULAMALAR

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ÖZ

Bu çalışmada, Türkiye'de bir İngilizce Öğretmenliği Programı'ndaki öğretmenlik uygulaması dersinin parçası olarak Araştırmacı Öğretmen Adayı Modülü (STRM) adlı bir modül geliştirilmiş ve bu modül kapsamında ararştırmacı öğretmen olarak gelişimlerine katkı sağlamak amacıyla öğretmen adaylarına küçük çaplı araştırma projeleri yapmaları konusunda destek sağlanmıştır. Çalışmanın amaçlarından biri öğretmen adaylarının araştırmayı nasıl kavramsallaştırdığını anlamaktır. Diğer bir amaç ise, öğretmen adaylarının araştırmaya yönelik tutumlarının uygulama süresince nasıl geliştiğini anlamaktır. Son olarak da, araştırmaya katılan öğretmen adaylarının modül hakkındaki görüşleri incelenmektedir. Araştırmaya on altı öğretmen adayı katılmıştır Veri toplama aracı olarak Borg'un (2009) "İngiliz Dili Öğretmenlerinin Araştırmaya İlişkin Görüşleri" anketinin ilk iki bölümü, anketle ilgili görüşmeler, ön ve son görüşmeler ve yansıtıcı günlükler kullanılmıştır. Sonuçlar, çalışmaya katılan öğretmen adaylarının araştırmaya ilişkin kavramsallaştırılmasının modülün entegrasyonu sırasında değiştiğini göstermektedir. Ayrıca, çalışma boyunca öğretmen adaylarının öğretmen araştırmasına yönelik olumlu tutumlarının da geliştiği bulunmuştur. Bulgular, İngilizce dil öğretim programları için önemli sonuçlar vermektedir. Staj uygulamasının bir parçası olarak entegre edilen modülü tamamlayan öğrencilerin modüle ilişkin geribildirimleri oldukça pozitiftir. Her ne kadar bazı öğretmen adayları araştırma projelerine başlamadan önce bir dereceye kadar endişeli olduklarını ifade etseler de, uygulama boyunca ve uygulama sonunda olumlu yorumlar yapmışlardır. Katılımcıların çoğu, modülün özellikle yeni fikirleri denemek için sınıftaki güvenlerini etkilediğini ve genellikle öğrencilerin

öğrenmeleri hakkında kendilerine daha fazla iç görü kazandırdığını söylemektedir. Bulgular, İngilizce öğretmenliği programları için önemli sonuçlar vermektedir.

Anahtar Kelimeler : Araştırmacı öğretmen adayları, öğretmen araştırması, öğretmen adaylarının eğitimi

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LIST OF ABBREVIATIONS

EFL	English as a Foreign Language
ELT	English Language Teaching
INSET	In-service Education and Training
SLTE	Second Language Teacher Education
ST	Student Teacher
STR	Student Teacher Research
STRM	Student Teacher Research Module
TEFL	Teaching English as a Foreign Language
TR	Teacher Research

CHAPTER I

INTRODUCTION

This chapter begins by laying out the background to the study and statement of the problem. The remaining part of the chapter proceeds as follows: purpose, significance, and limitations of the study. Finally, definitions of terms are listed.

1.1. Background to the Study

The issue of teacher research engagement has received considerable attention in general education for several years (Bailey, 2001; Barkhuizen, 2009; Baumann & Duffy, 2001; Bell, 1997; Cochran-Smith & Lytle, 1999). It is a widely held view that the popularity of teacher research has come up with the rise of reflective practise (Schön, 1983), which suggests teachers look at their work critically and emphasizes learning to teach as an ongoing process of lifelong professional learning (Cochran-Smith & Lytle, 1999). It is mostly emphasized that teacher research offers a chance for teacher learning. Teachers have various needs at various times during their practices, and the requirements of the schools where they work may change over time (Richards & Farrell, 2005). They are suggested to examine their practices so that they can meet these needs and make informed decisions with the help of inquiry. Briefly, teacher research is posited as a way to expand both theoretical and practical knowledge and it "offers a fuller conception of teacher learning that spans an entire career" (Blumenreich, 2006, p. 866)

There is a large volume of published studies describing the benefits of teacher research engagement (e.g., Admiraal, Buijs, Claessens, Honing, & Karkdijk, 2017; Atay, 2006,

2008; Barkhuizen, 2009; Berger, Boles, & Troen, 2005; Borg, 2007; Borg, 2009; Borg, 2010; Cochran-Smith, Barnatt, Friedman, & Pine, 2009; Dobber, Akkerman, Verloop, & Vermunt, 2012; McKay, 2006). For example, Cochran-Smith et al. (2009) highlight its role for lifelong learning and state that research engagement enables teachers to become life-long learners who can bring up issues and continuously figure out how to instruct by examining and thinking about their practise throughout their professional lives. As noted by McKay (2006), teachers' research engagement leads to better education, not through definitive responses to educational issues, but by bringing fresh insights into the process of learning and teaching.

Teacher research has also been accepted to foster meaningful professional development (Berger, Boles, & Troen, 2005; Henson, 2001; Kincheloe, 2003; Kirkwood & Christie, 2006; Ulvik, 2014). Furthermore, it is an invaluable tool to help teachers become more aware of themselves and their teaching practice. In its very nature, it improves not only the inquiry skills of teachers but also their teaching.

Borg (2006) also states that the more teachers are involved in research, the more quality of education rises. It seems that teacher research engagement brings about a lot of benefits for not only teachers but also the education system. Hence, we need more teachers engaged in research to enhance the quality of teaching.

Teachers are expected to update their professional knowledge and skills so that they can respond to changes in educational trends and paradigms. Thus, it is of much importance for them to take part in activities that will contribute to their professional development. Of these activities, teacher research has been generally accepted to be an important tool for fostering meaningful professional development for teachers.

1.2. Statement of the Problem

Although the critical role of teacher research in the professional lives of teachers has been underlined, "teacher research is not a widespread activity in ELT" (Borg, 2010, p. 392). Bell (1997) laments that the field of second language education has lagged in the teacher research movement, although there has been a significant interest in the rest of the educational field. Borg and Liu (2013) also note that "the study of language teacher research engagement is an emerging area of inquiry" (p. 272). More specifically, it is

stated that the research engagement of language teachers has attracted much interest in the last two decades (Bai, 2018; Banegas, 2018; Yuan, Sun, & Teng, 2016).

There are numerous studies in the field of language teaching which have deliberated over theoretical issues such as benefits, problems, and possible solutions of language teachers' research engagement (e.g., Allwright, 1997; Borg, 2003). Some researchers in the field have also published methodology books to provide guidance for language teachers to carry out research (e.g., Burns, 2009; Mackey & Gass, 2005; McKay, 2006). Furthermore, several researchers have explored language teachers' perspectives on research engagement (e.g., Allison & Carey, 2007; Borg, 2009; Borg & Liu, 2013; Everton, Galton, & Pell, 2000; Reis-Jorge, 2007)

Previous studies investigating English teachers' perspectives on engagement in research have revealed that teachers have negative attitudes towards research (e.g., Allison & Carey, 2007; Atay, 2008; Borg, 2009; Reis-Jorge; 2007). Some of these studies also have attempted to understand the reasons why teachers are not willing to participate in research, and several reasons have been identified. Primary reasons teachers cited as reasons for disengagement in research are lack of institutional support, time, research knowledge, and skills (Allison & Carey, 2007). Another reason for the lack of teacher research engagement is the fact that teachers perceive educational research as possessing characteristics of the positivistic research approach (Shkedi, 1998). Similarly, Borg (2006) asserts that teachers' association of research with academic work, positivist perceptions about what research is could be the reasons for this disengagement. Borg (2010) restates his claim in the following years, underlining that teachers' perceptions of research are in the limits of traditional notions. In another study, Sanchez and Borg (2015) point out that teachers' rigid conceptions of what research is, lack of confidence in their ability to carry out research, the tensions between being a teacher and researcher are among the challenges in teacher research. Moreover, language teachers think that it is difficult to carry out research (Atay, 2008). The lack of mentors is also seen as an obstacle that decreases the motivation to conduct research. The studies have also revealed that teachers recognize its benefits for their practice (Reis-Jorge, 2005). However, it seems that although teachers recognize the benefits of classroom inquiry for their practice, their participation in it is low because of their negative attitudes.

Negative beliefs and attitudes concerning research are the most common reasons cited by teachers for not doing research. In other words, teachers' disengagement with research can be traced to their beliefs of and attitudes towards doing research. Inadequate research background is also commonly given as a reason for teachers' reluctance to do research. The research course has been added to the curricula of teacher education programs in order to solve this problem. However, research activities are limited to basic research knowledge and skills, and student teachers' beliefs and attitudes towards research are mostly excluded (van der Linden, Bakx, Ros, Beijaard, & van den Bergh, 2015).

Despite the neglect of student teachers' beliefs and attitudes towards research, it is crucial to understand how student teachers conceptualize research. However, there are a few studies about how ELT teachers conceptualize research, although there is little research about how ELT student teachers conceptualize research. Gitlin, Barlow, Burbank, Kauchak, and Stevens (1999) state that the studies on what pre-service teachers think about research are limited. They also argue that understanding pre-service teachers' opinions about what research is could help in creating practices that support research engagement.

As abovementioned, teachers have negative attitudes towards research, and it seems that teachers' traditional conceptualization of research impedes them from drawing on the benefits of research. Teacher cognition has been recognised to affect teachers' professional lives for many years (Borg, 2003). Borg (2003) defines teacher cognition as "what teachers think, know, and believe and the relationships of these mental constructs to what teachers do in the classroom" (p. 81). He suggests a framework in which he defined factors affecting teacher cognition. These factors are schooling, professional coursework, contextual factors, and classroom practice. Of these factors, professional coursework is important since how teachers conceptualize learning and teaching may determine how they will teach in the future. Whereas teachers' experience as learners, which is called schooling, affects teacher cognition to such an extent that this effect will continue throughout the career of teachers, it is possible to make changes in how teachers conceptualize things during their professional coursework. As teacher research has several benefits, it can be useful to help teachers conceptualize research as an essential part of teaching when they attend teacher education programs. Borg (2003) points out that while technical know-how is a significant component of teachers' research education, we should not miss out on the reality that teachers' development of appropriate attitudes towards research is essential. Although teachers have the technical know-how of doing research,

they may be discouraged from doing research because of their misconceptions. It is vital to inculcate alternative forms of research, like teacher research into student teachers (Russel & Korthagen, 1995, as cited in Cole & Knowles, 1998).

Incorporation of teacher research into teacher education is one of the attempts to promote teacher research. For example, Dobber et al. (2012) focus on the incorporation of teacher research into the curricula of teacher education programs and suggest that student teachers be encouraged to engage in research. They assert that when student teachers are engaged in research, they can develop a questioning stance. They also state that conducting research may be a promising activity in educating pre-service teachers if it is done purposefully and embedded in a program that highlights the inquiry of teaching as a continuous part of the practice. Similarly, Van Zee (1998) notes that teachers should envision research as relevant to their practices and suggests that instructors prepare prospective teachers to conduct research as part of learning to teach. He also states that assisting prospective teachers in learning to research as they learn to teach seems to be a promising avenue. Likewise, Parkison (2009) suggests that teacher education courses based on research promote the capacity of practitioners to understand changes in the needs of students. For this reason, it is of significant importance to create opportunities for student teachers to learn how to do research while they learn how to teach. This experience could make them more open to the notion of change for improvement and could increase the quality of education.

The involvement of student teachers in investigating their practices is considered to be an efficient way of improving their professional development as it encourages reflection (Cochran-Smith & Lytle, 1999). Darling-Hammond (2010) points out that teacher training is an ideal time to develop a mentality as a teacher-researcher. Teacher research has been introduced as a robust exploratory instrument in teacher education programs for student teachers to inquire about instructional issues and enhance their understanding of teaching practice (Hong & Lawrence, 2011). Teacher training programs can broaden student teachers' understandings of activities that can count as research by incorporating concepts such as teacher research and action research in which traditional differences between activities of carrying out research and teaching are narrowed. If we make teachers aware of these alternative notions of research, teachers can likely comprehend how inquiry can be a part of their teaching in spite of the demanding pressure of teaching. It is possible to help teachers acknowledge research activities that are most relevant to their profession. With

the help of such research education, it is possible to counter teachers' feelings that research is not feasible (Borg, 2003).

The attempts at promoting teacher research brought some questions about how to support teacher and student teachers to learn about teacher research. For example, Atay (2008) states that not much information is provided about the specific characteristics and stages of the research process despite a growing literature on the positive outcomes associated with teachers' engagement in research. Furthermore, Burns and Westmacott (2018) state that one of the current challenges facing many universities is how to support teachers in becoming researchers. Allwright and Bailey (1991) is one of the first studies that have tried to promote teacher research. Allwright (2003) later puts his/her regret into words by stating that the text "had unintentionally made classroom research so demanding that teachers would not be able to do it unless they had extra time and extra support" (p.116).

In parallel with attempts to promote teacher research, Borg (2006) provides a list of conditions that can promote teacher research and asserts that the more these conditions are met, the more likely that teachers will carry out research. These conditions are "awareness, motivation, knowledge, and skills, choice, mentoring, time, recognition, expectations, community, and dissemination potential" (p. 23). As highlighted by Borg (2010), how teachers conceptualize research is in the limits of traditional notions. For this reason, it is necessary to raise the awareness of teachers about teacher research. As motivation is one of the conditions on the list to promote teacher research, motivating teachers to do research is also crucial. Moreover, most teachers report that they do not conduct research as they lack the necessary knowledge and skills (Borg, 2010). It is of vital importance to help them gain confidence in research. Of these conditions, dissemination potential also carries great weight. Teachers need to know that the rest of the community can benefit from their findings when they make their inquiries public. On reading the research reports by other teachers, a teacher can make changes to his/her practice. As teacher research is more directly applicable to classroom contexts, findings yielded by teacher research may make more sense to other teachers (van Zee, 1998). Similarly, Castle (2013) states that "Teachers are far more likely to apply the results of teacher research to their teaching than to apply the results of more traditional educational research" (p.269).

The quality and methodology of research conducted by teachers are some of the hot debates in the literature. It is suggested that teacher research be assessed differently, and

questions have been raised about imposing academic notions. Studies conducted by teachers are mostly assessed by considering academic standards. Teacher research studies are more likely to be rejected as they do not conform to the expected format (Bell, 1997). That is, some do not call what they do as research. Different practical and feasible ways of teacher research have been offered to encourage teachers to engage in/with research. If teachers are not aware of teacher research, they may not disseminate or share what they do. The studies about teacher research methodology state that dissemination is a part of teacher research, but it does not have to be in a written format. Borg (2013) states that it is enough to share it with colleagues by conducting a small-scale study. Berger, Boles, and Troen (2005) emphasize the difficulty of developing a good understanding of multiple research methods as follows:

> "Teachers are not full-time students, and are unlikely to have the time to develop full and robust understandings of multiple research methods; indeed, having full and robust understandings of either qualitative or quantitative methods is a lengthy process, unlikely to be achieved quickly by anyone." (p.104)

Although research courses in teacher education have been popular for a long time, this course was added to the English teaching program in Turkey with the 1997-1998 curriculum. In literature, it is often stated that the course is inadequate in developing basic research skills. Most of the time, this course remains at the theoretical knowledge level, and prospective teachers are not offered opportunities to turn this theoretical knowledge into practice. It is essential to conduct application-based research to ensure that the information learned is more meaningful and permanent. Although student teachers of ELT programs in Turkey have compulsory research methodology class in their second year in the program, mostly, they do not have a platform to carry out research in real classrooms. They have a chance to face a real classroom in the final year when they go to practicum. Student teachers try to develop an understanding of their new working environment during teaching practicum.

All in all, teachers have negative attitudes towards research, but these studies mostly assumed that teachers should have a positive attitude towards academic research. As Richardson and others suggested, it is necessary to consider them fundamentally different. The fact that they have a conventionalized way of research may not mean that they can benefit from a small-scale study carried out in their classrooms. Another concern is that studies about student teachers' conceptions of research are limited. As mentioned before, there have been some attempts to promote teacher research. Incorporation of teacher

research into teacher education is one of these attempts. In the Turkish context, there are limited studies about the integration of teacher research into teacher education programs.

1.3. Purpose of the Study

The most common criticism about teacher research is that it is of methodologically low quality. Borg (2013) links this critique to the convergence of the research with conventional scientific notions, which means that research is large-scale, reproducible, and quantitative. He also suggests that the process of data collection and analysis should be rigorous at a basic level so that teacher research can provide insights that we can trust.

It is emphasized in the literature that teacher research should be a feasible activity (Borg, 2010). It is also important that the methodology for teacher research should be considered as it is not just a private activity, but can be systematic. Inquiry skills of student teachers need to be enhanced before they commence their careers. For this purpose, a module called the Student Teacher Research Module (STRM) has been developed and integrated into the practicum in a language teacher education program. Within the scope of this module, practical research activities have been integrated into the syllabus of practicum so that student teachers can develop positive beliefs of and attitudes towards teacher research. This module has been designed considering the necessity of developing teacher research skills in teacher education programs and integrated into the practicum. With this application, it is aimed to increase the awareness of prospective teachers about teacher research and to motivate them to make teacher research a part of teaching when they start their profession.

Based on this module are guidance and elicitation. Student teachers are more likely to engage in teacher research if they are motivated to do so in a context where guidance and support are provided. The conditions, which are claimed to promote good quality teacher research by Borg (2006), have been taken into consideration while designing this module. The awareness of student teachers about the crucial role of research for teaching practice has also been raised. Their choices and expectations have been considered, as well.

This module has been developed based on the belief that conducting research is complicated but satisfactory, and that student teachers will benefit from the process by questioning an aspect of their practice and gathering evidence to answer their questions

about that during their practicum experience. This study has been guided by a conceptual framework built on the following assumption: Conducting a small-scale study in a teacher education program can strengthen student teachers' intended behaviour for teacher research.

The studies in the literature mostly have questioned teachers' ideas about scientific research and ignored research that can be carried out by teachers in their everyday work. The fact that teachers have negative attitudes towards scientific research might not mean that teachers approach teacher research negatively. It is likely that they conceptualize these two types differently. While some of the studies assume that teacher research should be compatible with academic research criteria, Richardson (1994) asserts that they are fundamentally different.

The main purpose of student teacher research integration is to help student teachers think systematically over their practice. Research reminds most people of the work carried out by academic researchers. It is not a concern of this study whether what student teachers produce conform to academic research standards. As Richardon (1994) claims, academic research and practical inquiry are fundamentally different. We cannot impose academic standards and notions on teachers. What matters to this study is to help them appreciate the systematicity of teacher research and see it as a beneficial part of teaching and develop inquiry as a stance, as suggested by Cochran-Smith and Lytle (2015).

The justifications for this integration are given below:

- First of all, it is stated that teachers have a conventionalized way of thinking with regards to research (Shkedi, 1998; Borg, 2010).
- It is important to raise teachers' awareness of teacher research by involving them in the research process (Borg, 2006).
- Research should be a feasible activity and a part of teaching instead of a burden (Borg, 2010).
- In the context of teaching, it is of great importance to make teachers aware of more inclusive definitions of research and of forms of research that are more appropriate to the professional activities of teachers (Borg, 2003)
- It has been stated that conducting teacher research has a transformative effect. (Cochran-Smith et al., 2009)

This study has three different purposes. First of all, it aims to understand how student teachers' conceptions of research develop during the integration of a module called the Student Teacher Research Module (STRM) as a component of practicum in an SLTE program. The second aim of the study is to understand student teachers' attitudes towards research during this process. The third purpose is to explore student teachers' perceptions about the STRM.

The study addresses the following research questions :

1- What are the student teachers' conceptions of research during the integration of the Student Teacher Research Module (STRM) as a component of practicum in an SLTE program?
2- What are the student teachers' attitudes towards research during the integration of the STRM?
3- What are the student teachers' perceptions about the STRM?

1.4. Significance of the Study

There are several studies that dealt explicitly with language teachers' research involvement. To illustrate, Allison and Carey (2007) explore teachers' views about the relationship between their professional practice and language teaching research language. Furthermore, Atay (2008) investigates the research experiences of Turkish EFL teachers in a research-oriented INSET program to find out their attitudes towards classroom research. In another major study, Borg (2009) tries to find out how EFL teachers conceptualize research. Reis-Jorge (2007) also attempts to find out the role of formal instruction and research involvement in influencing teachers' views of teacher research.

However, very few studies have investigated how ELT student teachers conceptualize research. (e.g., Griffioen, 2019; Kizilaslan, 2014). Moreover, exploring the research attitudes of student teachers during the integration of teacher research is a novel attempt in Turkey. The present study may contribute to the literature by giving a picture of how these student teachers conceptualize research, and also their intentions for research engagement in their future practice.

Research into how student teachers should be motivated and taught how to conduct research and use the results of research in their future jobs is scarce. Several studies

emphasize the importance of (the development of) teachers' positive attitudes regarding research (e.g., Dobber et al. 2012; Hagevik, Aydeniz, and Rowell 2012). Research activities in the curricula of teacher education often consist of restricted courses on basic research knowledge and skills in which student teachers' beliefs and attitudes towards research are rarely included. The suggested module can motivate research-integrated practices and other student teacher research engagement practices in English language teaching programs. It might contribute to the field of teacher education by providing implications for student teacher research.

1.4. Limitations of the Study

This study is limited to the student teachers at Gazi University English Language Teaching Program. Thus, their attitudes and perceptions may not represent those of student teachers in other teacher education programs.

1.5. Definitions of Terms

Teacher research: "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" (Borg, 2010, p. 395).

Student teacher research: A small-scale study carried out by student teachers through guidance by a mentor during pre-service teacher education.

Conceptualization of research: The act or process of forming an idea of research in an individual's mind.

Research attitudes: Beliefs, feelings, and behavioral tendencies that serve as a determinant of an individual's engagement in research.

Cognitive attitudes towards research: An individual's thoughts and understanding of research.

Perceived ease of research engagement: The degree to which a person considers that research is easy to use.

Perceived knowledge of research engagement: An individual's self-assessment or feeling of knowing about research.

Perceived usefulness of research engagement: The degree to which a person considers that research would enhance his performance.

Affective attitudes towards research: Feelings about and interest in research engagement.

Self-efficacy in research: An individual's beliefs in his capabilities to do research**.**

Intended behaviour for research: A person's intention to use research in future practice

CHAPTER II

LITERATURE REVIEW

This chapter begins with what teacher research is. The definition, history, conceptualizations, benefits, and criticisms of teacher research are given to explain the nature of teacher research. The chapter then goes on to a brief summary of the sociocultural theory and attitudes towards research. Finally, an overview of studies on teacher research is given.

2.1. What is Teacher Research?

2.1.1. Definition of Teacher Research

Teacher research is the most widely used label to define the research done by teachers in classrooms, although there are also other labels such as action research, critical inquiry, self-study (Roulston, Legettre, DeLoach, & Pittman, 2005). Besides, one of the labels used for teacher research is practitioner research, which "refers to a systematic inquiry by professionals in any discipline who are investigating their practices (so the practitioners may be, for example, nurses)" (Borg, 2010, p. 394).

Another label used for teacher research is "practical inquiry" that focuses on generating or enhancing practical knowledge (Cochran-Smith & Lytle, 1999). The practical inquiry is not characterized by any formalized research methods and can respond to the immediacy of knowledge that teachers need in everyday work. According to Richardson (1994),

research on practice has two types, which are formal research and practical inquiry. While the former refers to research conducted by researchers and practitioners to contribute to the general knowledge base, the latter is carried out by practitioners to improve their practice. He thinks that these two forms are beneficial for teaching practice, but they are "fundamentally different." He also claims that practical inquiry is more likely to create classroom change than formal research. Richardson (1994) asserts that formal research does not provide daily and immediate knowledge that teachers require in their classrooms. The practical inquiry is more likely to respond to the immediate knowledge needs of teachers. He underlines that it is essential to help teachers about how to improve practical inquiry. In short, teachers are seen as inquirers who question their assumptions and think more consciously about their practice, students, and teaching context. Teachers can also improve their teaching through inquiry and create relevant knowledge for their practice. According to Richardson (2004), the concept of teacher research has at least four approaches, which are teaching as research; the teacher as a reflective practitioner (Schön, 1983); action research; the teacher as a formal educational researcher. Richardson (1994) points out that "the first three belong to the practical inquiry category, which is not associated with any formal research methodology" (p. 7).

Teacher research describes an inquiry conducted by teachers in their professional contexts. The most common labels which are used to define the research done by teachers in their contexts are action research and classroom research. However, they are different from teacher research in nature, as noted by Bailey (2001) and Borg (2010). Bailey (2001) compares teacher research to action research and classroom research, which are mostly confused. These terms are used interchangeably, but Bailey states that they are not synonymous. While there is a reference to the location in classroom research, the agents conducting the study are referred to in teacher research. The location of action research may or may not be a classroom, and the agent of it may or may not be a teacher. Action research indicates a specific approach that constitutes repeating procedures, and these procedures defining action research may not be followed in all teacher research. Teacher research is a broader term than action research. Action research constitutes a form of teacher research, but procedures that are peculiar to action research are not always followed in teacher research. Classroom research is a systematic inquiry conducted in classrooms, but not all classroom research is teacher research. While we refer to the

location by using the term classroom research, teacher research refers to the agents conducting the study (Borg, 2010).

Christianakis (2008), which resembles teacher research to a feminist act, also distinguishes between teacher research and action research and states that teacher research and action have some goals in common, but methodologically, teacher research is less formulaic than action research. He also states that "Teachers do not have to do something with their research. Understanding is the immediate action" (p.2).

There have been a variety of definitions of the term teacher research, one of which is suggested by Borg (2010) who defines teacher research 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" (p. 395).

Similarly, Borg and Sanchez (2015) define teacher research as "systematic self-study by teachers (individually or collaboratively) which seeks to achieve the real-world impact of some kind and is made public" (p. 1). Furthermore, Lankshear and Knobel (2004) define teacher-researchers as "classroom practitioners at any level, from preschool to tertiary, who are involved individually or collaboratively in self-motivated and self-generated systematic and informed inquiry undertaken to enhance their vocation as professional educators" (p.9). Likewise, Cochran-Smith and Lytle (1999) define teacher research as "all forms of practitioner inquiry that involve systematic, intentional, and self-critical inquiry about one's work "(p.22). These definitions imply that there is a focus on the self-initiated nature of teacher research. We can say that they focused on systematicity, being intentional, and self-critical inquiry about teachers' work while defining teacher research. In the same vein, Carter and Halsall (1998) report that essential characteristics of teacher research are systematic data collection and analysis for a clearly defined purpose, emphasis on professional activity, and causing beneficial change.

Borg (2010) makes a distinction between engagement in teacher research and engagement with teacher research. While the former focuses on the research carried out by teachers, the latter means that teachers just read research carried out by others and make use of the information they get from this research. Borg suggests that teachers' efforts to engage in and with research be facilitated. Dissemination is also a fundamental characteristic of

teacher research. In other words, teacher research needs to be made public. Teacher research is beyond personal study aiming at improving one's understanding of his/her practice. Teacher research is reflective, but reflecting on one's practice should not be considered as teacher research (Cochran-Smith & Lytle, 1999). The primary purpose is to improve teaching practice.

When it comes to other definitions of teacher research, Lytle and Cochran-Smith (1990) define it as a "systematic and intentional inquiry carried out by teachers" (p. 83). Goswami and Stillman (1987) suggest that each lesson be an inquiry for teachers. Admiraal et al. (2017) state that data collected systematically and analyzed for an identified purpose form the basis of teacher research.

Teacher research is mostly associated with reflective practice, but it is beyond reflection (Borg, 2006). Teacher research "does not necessarily include reflection or other terms that refer to being thoughtful about one's educational work in ways that are not necessarily systematic or intentional" (Cochran-Smith & Lytle, 1999, p. 22) Cochran-Smith and Lytle (1999) distinguish between teacher research and reflection. Teacher research is naturally reflective, but reflecting on one's own practice does not mean doing research.

Reis-Jorge (2007) specifies two different conceptions of research. One is traditional academic research, which indicates studies carried out by teachers who are familiar with university-based research standards. The other one is "a grassroots phenomenon" (p.403), which includes pedagogic activities to answer questions that originate from teachers' practice. He tries to understand the role of formal instruction and research involvement in teachers' conceptions of teacher-research and their perceptions about being enquiring practitioners. He states that the extremely structured forms of research could be an obstacle for teachers' research engagement.

What these definitions of teacher research have in common is that they refer to a systematic inquiry conducted by teachers in their professional contexts. Cochran-Smith and Lytle (2015) make a distinction between inquiry as stance and inquiry as a project. While the former is long term, the latter is a time-bound activity within a teacher education course. According to them, working from an inquiring stance should be the ultimate aim. In brief, it is necessary to bring about long-term outputs in order to achieve inquiry as a stance, not just as a project.

2.1.2. History of Teacher Research

The notion of teacher research has been an object of research for a long time in the field of education (Borg, 2006). The discussions about teachers' participation in the research go a long way back to the 1940s. Action research is seen as its ancestor (Borg, 2010). Kurt Lewin is the first person to use the word action research in America. In the UK, the teacher research movement is mostly associated with the work of Stenhouse (1975) and Elliot (1990). Teacher research studies were brought up again in the 1970s with the work of Stenhouse in the UK. In parallel with the movement, teacher research in the UK made significant contributions to understanding the theory and practice of learning in America. In the USA, Schön's (1983) reflective practice is considered to be critical as he urges teachers to be autonomous investigators of their teaching so that they can develop their understandings of practice. Schön's views on reflective learning have been influential in teacher education programs. The importance given to teachers' understanding of their context through research has increased over time. In the UK, initiatives have increased to encourage teachers to do more research. One of these initiatives is the Teacher Research Grant pilot scheme, which was started in 1996 by the Teacher Training Agency.

In the teacher research movement, teachers are seen as generators of knowledge. This perspective grew out of the paradigm shift in education in the 1970s and 1980s, during which teachers were seen as technicians and consumers of research. The hegemony of the academician-generated knowledge base was challenged by this paradigm shift (Blumenreich & Falk, 2006).

In language teaching, the interest in teacher research dates back to the 1980s when classroom research emerged as an alternative for promoting language learning (Borg, 2010). Allwright and Bailey's (1991) is one of the attempts which tried to promote teacher inquiry in language teachings. Nunan (1997) also attempted to bring teacher research into the forefront of language teaching. In the meantime, several studies aiming to enable language teachers to engage in research appeared (Burns, 2009).

2.1.3. Conceptualizations for Teacher Research

Different forms of teacher research reflect different underlying conceptualizations (Borg, 2010). Cochran-Smith and Lytle (1999) deliberate on three conceptualizations of teacher

research: teacher research as social inquiry, as ways of knowing within communities, and as practical inquiry. In the first one, teacher research is positioned as a way of supporting social change. Teacher research having social orientation is characterized as emancipatory. In the second conceptualization, teacher research is seen as a mechanism for school improvement and as a form of collaborative inquiry that enables teachers to improve their classes. In the third one, teacher research is a tool for developing teachers' practical knowledge. The focus is on solving practical classroom problems.

In language teaching, one of the conceptualizations of teacher research is exploratory practice (Allwright, 2003). It has been developed as a form of teacher research that can be integrated into the everyday practices of teachers to improve classroom life quality. Exploratory practice differs from action research in terms of having distinct processes: taking action for either understanding or change. While the exploratory practice is an action for understanding, action research starts with an intention to solve a problem (Borg, 2010). Dörnyei (2007) sees it "as a more-teacher friendly version of action research" (p.193) as it aims to make teacher research a more feasible activity (Borg, 2010).

2.1.4. Benefits of Teacher Research

There have been some studies describing the benefits that are associated with teacher research engagement (Kincheloe, 2003; Chamizo & Garcia-Franco, 2013; van Zee, 1998). These studies analyzed why teachers should become researchers and recommended that research should constitute a part of teacher practice. In the same way, several attempts have been made to understand the role of teacher research in professional development (Berger, Boles, & Troen, 2005; Henson, 2001; Kirkwood & Christie, 2006, Ulvik, 2014). Ulvik (2014) also considers action research as a tool for fostering professional development but states that it brings some challenges together. He questions whether it is worth doing action research in pre-service teacher education. He finds out that action research has potential benefits for professional development. It has also been considered to give students the confidence to take risks.

There have been several studies in the literature reporting that teacher research can have great power on the lives of teachers and their students (e.g., Atay, 2008; Berger, Boles, & Troen, 2005; Cochran-Smith & Lytle, 1999; Kincheloe, 2003). Atay (2008) proposes that

teachers become more reflective about their practices in the classroom when they are involved in the research. Since reflection is thought to be "one means for distinguishing professional from non-professional practice" (Hatton & Smith, 1995, p.35), being reflective becomes one of the most significant qualities that teachers need to have. While reflecting on their actions, teachers think consciously about what is going in the classroom, and consequently, they have the chance to modify their actions immediately. It is also important to consider the contribution of researching professional practice since it helps teachers take reasonable steps. Furthermore, teacher research enables teachers to learn more about their students, their schools, and themselves (Berger, Boles, & Troen, 2005). Teachers can draw upon this knowledge to help learners acquire appropriate strategies for learning and make changes in their teaching practices. Similarly, Kincheloe (2003) reports that teachers could also be more aware of the learning processes in the classroom and interpret these processes more appropriately when they are involved in the research. Therefore, it may be concluded that teachers can respond to their own needs and students' needs more professionally with the help of research.

The contribution of teacher research to the decision-making process of teachers is also of great value. "Teachers are active, thinking decision-makers who make instructional choices by drawing on complex, practically- oriented, personalized, and context-sensitive networks of knowledge, thoughts, and beliefs" (Borg, 2003, p. 81). Teachers should be aware of what works to improve classrooms that face challenging circumstances, and they should achieve sustainable improvement in the classrooms. Teachers need to provide meaning and solutions to problematic situations in their classrooms and make informed decisions about what to do in the classroom. They must think about a situation in a critical manner, which requires analytic reflection. As stated by Chamizo and Garcia-Franco (2013), teachers who carry out research on their practices can have a critical stance. When teachers engage in research, the pedagogical decisions they make in the classroom are more likely to be informed by research evidence (Borg, 2006).

As can be seen, there are a large number of potential benefits of teacher research, and teachers are recommended to engage with teacher research. Richards and Farrell (2005) recommend that teachers expand their knowledge base about research in order to keep up to date with developments in the field. Borg (2010) also recommends research engagement to language teachers for their professional development. Dobber et al. (2012) also report that teacher research can improve student outcomes as well as to contribute to the wider

community of teachers through presentations and publications. As Henson (2001) notes, "Teacher research promises to facilitate teachers' perception of self-efficacy, collaboration, positive student-teacher interactions, and professional growth and interest" (p. 822). That is to say, teachers who are involved in research are more likely to become satisfied with their teaching.

Olson (1990) states that teacher research provides teachers with a problem-solving mindset and the ability to affect their own professions. A teacher conducting teacher research may be granted an improved critical knowledge as they document and evaluate the activities in the classroom. Teacher research is also seen as a powerful strategy for local inquiry. Additionally, Edwards (2005) claims that conducting teacher research could provide benefits for teachers, such as being informed of the opinions of students and implementing changes in their practice.

2.1.5. Criticisms of Teacher Research

Seale (1999) identifies two different opinions on the standards that should be used to assess the quality of research. The first one is foundational, and the second is non-foundationalist. The former argues that the same criteria should be used to determine the quality of all research types, while the latter argues that each type of research requires different criteria.

Although reflective teaching and action research are promoted as an essential tool to enhance the professional knowledge of teachers, scholars have different ideas about the standards for teacher research. For example, Nunan (1997) supports rigorous teacher research and claims that "teacher research should, first and foremost, be evaluated against the same standards that are applied to any other kind of research" (p. 366). He also proposes evaluating teacher research against academic research standards in order to reduce reliability and validity problems. He underlines that appropriate data collection and evaluation are necessary to eliminate the threats to validity and reliability.

The most common criticism about teacher research is that it is of methodologically low quality. Borg (2013) links this critique to the convergence of the research with conventional scientific notions, which means that research is large-scale, reproducible, and

quantitative. Borg suggests that the process of data collection and analysis should be rigorous at a basic level so that teacher research can provide insights that we can trust.

Foster (1999) states that in the reports presented as teacher research, teachers mostly have included personal depictions of their own practices or efforts to improve student achievement. Similarly, Huberman (1996) questions the reliability of the methods used in teacher research and argues that conventional criteria should be used while evaluating teacher research. This means providing sufficient evidence and presenting the research in a manner free of prejudice. On the other hand, Reis-Jorge (2005) states that research projects in which academic rules are imposed can not be appropriate for supporting teacher research.

2.2. Sociocultural Theory

The paradigm underlying this study is the sociocultural theory. According to the sociocultural perspective, human learning is a dynamic and social activity (Johnson, 2009). In his seminal book, Johnson (2009) defines learning as “progressive movement from external, socially mediated activity to internal mediation control by individual learners.” (p.17). He adds that human cognition, which is a critical concept for sociocultural theory, is also formed by social and cultural activities. In other words, how and what an individual learns depends on his previous experiences and environment.

According to Johnson (2009), teacher cognition is shaped by the social activities that the teacher is involved in. In other words, experiences are important in shaping teachers' knowledge and beliefs. Research on teacher cognition investigates how teachers learn to teach and how they do things. This issue has become increasingly important in recent years. While the SLTE was concerned with how languages were learned in the past, today, it explores how teachers know what they know, how certain concepts evolve over time, and how learning processes have improved them.

Furthermore, teachers are seen as learners of teaching in this theory. For this reason, it is important to understand which cognitive and social processes teachers go through while learning to teach. Knowledge emerges through experiences and is constructed by the teacher. Understanding how teachers' thoughts develop is important for this theory.

Johnson (2009) claims that learning to teach is a complex and developmental process. It

has also been suggested that teacher education should provide the basis for lifelong learning and help teachers become adaptive experts who can adapt more easily to the unpredictable nature of classroom life. It is important that teachers reflect on their own experience for change in their practice and make sense out of their classroom experience as reflection allows the subconscious concepts to surface.

Another important point of the sociocultural theory is concept development. As the main purpose of education is to develop concepts, teachers must have dialogic mediation and scaffolded learning opportunities in order to reveal the correct concepts. Dialogic mediation determines the quality of the interaction between teacher and student and provides an opportunity for development.

The inquiry-based approach, which is closely associated with teacher research, is something that promotes dialogic mediation between teachers and teacher educators. Research engagement has been widely considered crucial in transforming teachers into "expert knowers about their students and classrooms" (Cochran-Smith & Lytle, 1999, p. 16). Teacher research engagement provides opportunities for teacher learning, which is closely related to "learning to teach" underlined by sociocultural theory. Besides, teacher research is considered to expand both theoretical and practical knowledge, and it "offers a fuller conception of teacher learning that spans an entire career" (Blumenreich, 2006, p. 866).

2.3. Attitudes towards Research

Attitudes are defined as "dispositions to evaluate psychological objects" (Ajzen, 2001). An attitude is considered to be composed of three dimensions, which are affective, cognitive, and behavioural (Bostrom, 2006). The cognitive dimension is the thoughts and understanding of an individual about an object or action and is focused on the overall assessment of the values of that individual. The affective dimension of attitude is an emotional reaction that reflects the level of preference the individual has for an object or behaviour. To put it another way, it is the feelings that a person has towards an object or behaviour.

Ajzen (2001) asserts that an individual's perceived behavioural control can affect his behaviour, which is closely associated with self-efficacy (van der Linden et al., 2015).

Self-efficacy is defined as “beliefs in one’s capabilities to organise and execute the courses of action required to produce given attainments” (Bandura, 1997, p.3).

According to van der Linden et al. (2015), “A person’s beliefs and the cognitive, affective and self-efficacious aspects of their attitude influence the intention to perform certain behaviour” (p.6). Hence, they operationaliz the attitudes of student teachers towards research by four attitudinal aspects, which are:

> “(1) the cognitive aspect, referring to the fact that student teachers need to understand and perceive the possibilities of conducting and using research as important for them as prospective teachers; (2) the affective aspect, concerning the need for student teachers to enjoy conducting and using research and to be attracted to it; (3) the self-efficacious aspect, referring to the need for student teachers’ positive judgement about being able to conduct and use research as teachers in practice; and (4) the intended behaviour, referring to the question whether a student teacher plans to conduct or use the results of research or to learn more about it. “(p.7).

For the attitudes towards research, van der Linden et al.’s (2015) categorization has been considered in this study.

Specifically, for attitudes towards research, the relevant literature has also been taken into consideration. In order to determine the components of each, relevant literature has been synthesized. Table 1 summarizes this synthesis. The findings of these studies have been considered, and connections between these findings and the components of research attitudes have been established. Mostly, the reason for this categorization is based on the literature which has tried to understand the reasons for and results of teacher research engagement and disengagement. In order to understand whether the same holds true for the participants in this study, student teachers’ attitudes towards research have been investigated based on this relevant literature. The questions in the data collection tools have also been prepared by considering this synthesis, and the emerging themes have also been used for the data analysis in this study.

The cognitive attitudes towards research include student teachers’ perceived ease of research engagement, perceived knowledge of research, and perceived usefulness of teacher research. Perceived ease of research engagement refers to the degree to which an individual considers that research is easy to use. Perceived knowledge of research refers to an individual’s self-assessment or feeling of knowing research. Perceived usefulness of research refers to the degree to which a person considers that research would enhance his performance.

Affective attitudes towards research are feelings about and interest in research engagement. They could be either positive and negative. Perceived self-efficacy refers to an individual's beliefs in his capabilities to do research. It is composed of self-satisfying and self-dissatisfying beliefs. Intention behaviour is a person's intention to use research in future practice.

Table 1

A Synthesis of Relevant Literature about Research Attitudes

	Findings	**Relevant studies**	**Emerging themes**
Cognitive attitudes	Teachers find it difficult/easy to do research.	Atay, 2008; Baştürk, 2017	Perceived ease of use
	Teachers state that they do not have the knowledge to do research.	Allison & Carey, 2007; Sanchez & Borg, 2015	Perceived knowledge
	Teachers recognize the benefits of research for their practice.	Reis-Jorge, 2005	Perceived usefulness
Affective attitudes	Teachers have negative feelings about research.	Anwaruddin & Pervin, 2015; Reis-Jorge, 2005	Negative affective attitudes
	Teachers have positive feelings about research.	Baştürk, 2017	Positive affective attitudes
Self-efficacy	Research engagement leads to an improvement in the participants' self-efficacy.	Bloomfield et al., 2004, Blumenreich & Falk, 2006; Görsev Boran, 2018; van der Linden et al., 2015; Wyatt and Dikilitaş, 2016	Self-satisfying beliefs
	Teachers state that they do not have the confidence to do research.	Allison & Carey, 2007; Sanchez & Borg, 2015	Self-dissatisfying beliefs
Intended-behaviour	Teachers intend to do research.	Al-maamari et al. (2017)	Intended behaviour
	Teachers do not want to engage in/with research.	Banegas (2018)	Unintended behaviour

2.4. Studies Related to Teacher Research

In this part, studies on teacher research that have been conducted both in general education and language teaching education are summarized. These studies are grouped into three main themes, which are perceptions of research, engagement in/with research, and promoting teacher research.

2.4.1. General Education

In the relevant studies, pre-service or in-service teachers have been employed as participants. For this reason, they are explained under two titles, which are in-service teacher research engagement and pre-service teacher research engagement.

2.4.1.1. In-service Teacher Research Engagement

A large and growing body of literature has investigated teachers' perceptions of research. For example, Beycioglu, Ozer, and Ugurlu (2010) surveyed 250 high school teachers in Malatya, Turkey, in order to understand their views on educational research and whether they appreciate the value of educational research for their practice. Sixty-eight per cent of the participating teachers, who were labeled as "research caring" in the study, reported that they held positive views about educational research, and they considered educational research findings. The participants who stated that they did not consider educational research findings were called research free. The study also revealed that the most popular research sources were academic journals, books, and in-service training courses, respectively.

There are also several studies that have attempted to comprehend teachers' engagement with research. Among these studies, Brenner, Bianchini, and Dwyer (2016) examined secondary science and mathematics teachers conducting research on their instructional practices and their views related to three strands of equity: teachers and teaching, students, and learning, and students' families and communities. Data collected included recordings of professional development seminars and school-site meetings, three sets of individual interviews with teacher researchers, and drafts and final products of the classroom research

teachers conducted. It was found that most transformed their understandings of teachers and students as a result of their teacher research process.

During recent years, much more information has become available on studies that attempt to promote teacher research among in-service teachers (e.g., Admiraal et al., 2017; Al-Maamari, Al-Aamri, Khammash, & Al-Wahaibi, 2017; Blumenreich & Falk, 2006). In Admiraal et al. (2017), with the guidance of a supervisor who worked as a university professor, four secondary school teachers conducted systematic research projects in their classes. The study aimed to find how teacher research can develop professionalism, teaching practice, and the knowledge base of teachers. Reports of research projects and learner reports revealed that there was an improvement in the participating teachers' professionalism and knowledge base, and teachers' research engagement led to a change in their teaching practices.

Al-Maamari et al. (2017) criticized the imposition of a top-down model of existing initiatives for supporting teacher research and stated that this approach adversely affected the motivation of English teachers to conduct research. In their study, a bottom-up approach was adopted, and teachers' perceptions of research were examined. It was found that the research- support program provided the teachers with motivation to do their own research. Researchers argued that they offered effective methods to answer the question of how to make teacher research more common.

Blumenreich and Falk (2006) attempted to determine how teacher research leads to a change in the understanding of learning and teaching. It was determined that the participants gained new insights about learning and teaching, their attitudes and practices changed, and there was also an improvement in their self-efficacy. Teacher-learners said that they developed new insights into what they think they had already learned. They also stated that learning how to do research makes them more confident. It was stated that conducting teacher research helped them gain research skills such as questioning, observing, recording, reflecting, analyzing, and linking new information with the old.

2.4.1.2. Preservice Teacher Research Engagement

Much of the current literature on pre-service teacher research engagement pays particular attention to the promotion of teacher research (e.g., Baştürk, 2017; Bloomfield, Taylor, &

Maxwell, 2004; Brinkman & Van Rens, 1999; Demircioglu, 2008; Parkison, 2009; van Zee, 1998). Among the studies which tried to promote pre-service teacher research, Baştürk (2017) aimed to reveal the opinions of student teachers about a small research project within the scope of the scientific research methods course. It was suggested that having only theoretical knowledge is not sufficient. Student teachers were asked to carry out application-based research projects. Sixty-nine student teachers participated in the study. 5-point Likert-type questionnaire was used as a data collection tool. It was determined that the research had a positive effect on student teachers. Thanks to this application, they have learned the nature of scientific research and gained the motivation to conduct scientific research and pursue graduate studies. The participants stated that they were able to make more objective judgments at the end of the research projects, and they did not find it difficult to conduct research anymore.

Bloomfield et al. (2004) got student teachers involved in The Teaching Project unit in their fourth year. Student teachers took an action research project during their 10-week practicum. It was found that the unit contributed to enhanced confidence and a strong sense of achievement. Student teachers were more reflective and open to the notion of change for improvement at the end of the process.

In Brinkman and Van Rens' (1999) study, student teachers at a university teacher training institute in Amsterdam individually carried out research projects as part of their curriculum. This qualitative study elaborated on four student teachers' practice, experience, and problems with the educational research project and formulated the improvements for the training of inquiry skills. It appeared that the course was not efficient enough, and the participants had problems with formulating research questions and implementation. They suggested that student teachers should be better prepared on the why, what and how of educational research.

Demircioglu (2008) examined the attitudes of prospective teachers of social science towards educational research. Within the scope of the scientific research methods course, a small research project was carried out by student teachers. A questionnaire consisting of open-ended questions and interviews were used as data collection tools. Seventy-four students participated in the survey, and 28 of these students were interviewed. It was found that the majority of the students gained basic educational research skills such as problem identification, hypothesis, literature review, selecting an appropriate research method, data

collection tools, data collection and analysis, and giving references in their project writing at the end of the course. Prospective teachers said that when they started to work, they would use what they gained from this small-scale educational research project for educational research.

Parkison (2008) investigated the effect of field-based research on student teachers' professional inclinations after conducting a scaffolded research project. The student teachers were guided to deconstruct their assumptions, and they achieved to "move beyond the ideology of accommodation" (p. 803). The study underlined the need for such kind of programs in order to become knowledge generators rather than implementers of ready-made practice.

Van Zee (1998) explored how prospective teachers learned how they could carry out research. During the research project, these prospective teachers chose a topic to teach in their placement classroom, learned how to use surveys and interviews as well as building knowledge, skills, and attitudes for lifelong learning. While some students embraced this project positively, some students made negative comments.

As an alternative solution to teachers' negative feelings about research, some studies focused on the incorporation of teacher research into the curricula of teacher education programs (Dobber et al., 2012; Kotsopoulos, Mueller, & Buzza, 2012; Lovat, Davies, & Plotnikoff, 1995). All these studies suggested developing a research disposition during pre-service teacher education, as this is considered a promising method. Dobber et al. (2012) focused on the positive effects of engagement in research during professional coursework on the careers of student teachers. They conducted their study with two groups in a post-graduate teacher education program in the Netherlands. While the first group was involved in elaboration and decision making iteratively during the whole project, the second group did not, which caused this group to develop a negative stance towards research. In this in-depth qualitative study, the researchers collected data through video and audio recordings. Student teachers were also expected to give a presentation at a conference at the institute and write a scientific article. Moreover, they were interviewed by using a stimulated recall procedure. The researchers concluded that student teachers needed to learn how educational research is conducted. They suggested that more attention be paid to the collaborative inquiry process, and teacher education programs incorporate teacher research in their curricula. They also recommended guiding student teachers during research

projects towards inquiry as a stance. Similarly, Kotsopoulos et al. (2012) asserted that engaging in such practices develops better teachers.

2.4.2. Language Teaching Education

2.4.2.1. In-service Language Teacher Research Engagement

A considerable amount of literature has been published on in-service language teachers' perceptions of research (e.g., Bai, Millwater, & Hudson, 2014; Bai, 2018; Banegas, 2018; Borg, 2009). For example, Bai et al. (2014) examined Chinese TEFL teachers' conceptions of research and attempted to find out the factors that affected their research endeavour. It was found that Chinese TEFL teachers acknowledged the importance of research for their professional development and practice. However, their research efforts were impeded by a lack of personal traits such as research and methodological expertise, confidence in research, and intrinsic motivation.

In another study, Bai (2018) investigated Chinese English language teachers' beliefs about what counts as research and what value research has. Thematic analysis showed that their views about what counts as research ranged from teaching reflections to principled inquiry. The beliefs of the English teachers about what counted as research tended to be strongly associated with their experience of personal research and authority. For them, the importance of research was indicative of a spectrum that ranged from fulfilling institutional research criteria, teaching advantages, to expertise and psychological needs satisfaction.

Banegas (2018) explored the research conceptions of English as a foreign language teachers in Argentina. It was found that teachers held conventional notions of research closer to a quantitative paradigm. They believed that research was not part of their job, and the primary reason for research disengagement was a lack of time. The study suggests engaging teachers with research forms that are more relevant to them in order to pursue professional development.

Similarly, Borg (2009) examined how English language teachers conceptualized research by using a questionnaire which consisted of six sections. These sections included respondents' conceptions of "what counts as research, views about the characteristics of

good quality research, perceptions of their institutional culture about research, engagement in reading research, engagement in doing research, and background information" (p. 361). He collected questionnaire data from 505 English teachers in thirteen countries. After that, he conducted written follow-up interviews with twenty-two teachers from thirteen countries. The purpose of this study was to understand teachers' ideas about what research is and the extent to which teachers do and read research. The findings showed that teachers held "conventional scientific notions of inquiry" (p.358). That is to say; teachers perceived research as something that involved statistics, hypotheses, large samples, and variables. According to Borg, it is highly likely that this conception of research discourages teachers from becoming engaged in research activities. He recommended increasing teachers' awareness about teacher research and concluded that organizational, emotional, intellectual, and collegial support structures were essential for teachers' involvement in quality research.

Negative attitudes towards research were also revealed by these studies. Some of these studies also attempted to understand the reasons why teachers are not willing to participate in research. Major reasons teachers mentioned for being disengaged in research are lack of institutional support, lack of time, and lack of research knowledge and skills (Allison & Carey, 2007). Their rigid conceptions of what research is, low teacher confidence in their ability to carry out research, tensions between being a teacher and researcher are also among the challenges in teacher research (Sanchez & Borg, 2015).

There are also some studies that have focused on language teachers' research engagement and their perspectives on doing and reading research (Allison & Carey, 2007; Atay, 2008; Borg 2009; Reis-Jorge, 2007; Sanchez & Borg, 2015). For instance, Allison and Carey (2007) aimed to discover how language teachers saw the relationship between their professional practice and language teaching research through a questionnaire and follow-up discussions. The participants of this investigative study were teachers in the School of Linguistics and Applied Language Studies of a Canadian University. Twenty-two teachers responded to the questionnaire, and sixteen teachers were interviewed. The researchers presented findings from a preliminary content analysis. According to the findings, teachers reported that as teaching had time-consuming demands, their priority was to meet the immediate classroom needs of their students. Teachers also stated that they did not have enough time or energy to conduct systematic research. It was also found that some of the

interviewed teachers did not have confidence in their methodology and mentioned deficiencies in research design and statistical analysis.

Tavakoli and Howard (2012) found that despite their optimistic perspectives about research and its utility, teachers are largely skeptical about the practicability and relevance of second language research studies. They anticipate research studies to come from instead of finish in classrooms and establish that the primary duty of putting research and practice together should be supported by the teacher education programs and instructional policies of the organisations in which they work. The teachers' responses demonstrated that they have a variety of different interpretations of what constitutes research, most of which are somewhat different from more established notions of research, e.g., trying to design a study or gathering and analyzing data systemically. The teachers regarded asking an experienced workmate, observing a colleague, trying out a new method in the classroom, and using the Internet as various kinds of research that they would have access to, and were constantly involved in. While previous studies have reported that teachers and researchers have various research orientations and concepts, they argue that the understandings of what constitutes research are sometimes completely different from more established or conventional conceptions of research.

There are also a few studies that specifically focused on in-service language teachers' engagement in/with research. To illustrate, Anwaruddin and Pervin (2015) conducted a mixed-method study to understand Bangladeshi English Language Teachers ' engagement with research. The findings indicated that teachers showed little or no interest in reading research. The most repeated reasons were lack of institutional support, unnecessity of reading research to maintain a job or receive a promotion, and having trouble understanding research. Likewise, Barkhuizen (2009) analyzed the research experiences of 83 English teachers at Chinese universities, and his results reflect the predominance of practical and professional interests as factors that inspire teachers to do research, which might include motivating their students, developing instructional materials and urging students to speak in the classroom. It was also found that lack of confidence, requisite knowledge and skills are potential conflicts that could dissuade teachers from research engagement even though it could be a small-scale one.

Numerous studies have attempted to promote in-service teacher research (for example, Atay, 2006, 2008; Borg & Liu, 2013; Dikilitaş & Wyatt, 2018; Görsev Boran, 2018; Reis-

Jorge, 2005, 2007; Wyatt, 2011; Wyatt & Dikilitaş, 2016). Atay (2006) carried out an exploratory case study in which ten pre-service and ten in-service teachers worked collaboratively on research projects in an EFL setting. The findings revealed that engaging in collaborative research helped both in-service and pre-service teachers to systematically observe, analyze, and reflect on their methods of teaching.

Atay (2008) also examined the research experiences of Turkish EFL teachers in a research-oriented INSET program to find out their attitudes towards classroom research and how research affected their instructional practices. She conducted her study at the English preparatory school of a university in Turkey with sixty-two teachers for six weeks and found that EFL teachers encountered difficulties in conducting and reporting their research but INSET program, during which theoretical knowledge and guidance for research were provided, positively affected their professional development.

Borg and Liu (2013) provided empirical evidence to support the claim that action research can be utilized as a useful tool for the professional development of teachers. They emphasized that such kind of studies are important to understand the restrictions in doing action research projects. They suggested to add an action research course into teacher education programs or integrate it as a part of the existing research classes.

Çelik and Dikilitaş (2015) integrated a guided action research project to involve 25 English language teachers in observing the problems in their classes and offering solutions for these problems. The participants' awareness of action research was raised, and extensive support and guidance were provided during the process. The completed studies were brought together in a mini-conference and published in a book of proceedings in order to provide extra motivation. The project phases included an attitude training session, description, and exemplification of action research stages, application of the stages, choosing a research topic, presenting proposals, collecting and analysing data, and presenting the study in a mini-conference. They found that carrying out those projects enabled the participating teachers to improve their practical skills, deepen their knowledge, and motivate them for their professional development. The participants tended to see teacher research as academic research, so the participants were encouraged to view their projects by considering their influence on their own practice.

Dikilitaş and Wyatt (2018) investigated how three teacher-research-mentors developed into their new role when promoting teacher-research projects over a one-year span in various

contexts of English language tertiary education in Turkey. The study underlined the importance of providing psychological support to maintain the motivation of teacher-researchers throughout the whole process. It was also revealed that high-quality teacher research might not be produced at the beginning of the mentoring process.

Görsev Boran (2018) investigated whether there is a difference in the motivation and self-efficacy of teachers conducting teacher research within the scope of an in-service training course in a Master's degree program at a private university in Turkey. Before the course, the participants thought that research could be done by both academics and teachers, but it turned out that the participants did not know the typical features of teacher research. After the course, it was found that there was no significant change in the participants' research knowledge and motivation, but the participants' self-efficacy was significantly affected. Participants complained about the literature review, data collection, and analysis. Before the application, the participants stated that the statistical methods were the only way to analyze the data. After the course, they stated that coding could also be used for the analysis of qualitative data.

Reis-Jorge (2005) claimed that the comprehension of formal research discourse and theoretical awareness does not automatically help to encourage active research practice. Even though the participants stated that they had positive and affective research attitudes, they were not inclined to take action. Research should be included in teacher education curricula in order to motivate teachers to develop constructed knowledge and become critical consumers and generators of classroom research.

Furthermore, Reis-Jorge (2007) carried out a longitudinal study about teachers' conceptions of research to find out the role of formal instruction and research involvement in affecting teachers' views of teacher research. The researcher conducted the study with nine teachers who attended a program in TEFL in Britain. He followed the participants throughout the whole program and triangulated data by using various data sources. Data analysis revealed that at the beginning of the program, the participating teachers tended to provide a functional definition for teacher research. They considered research as an instrument to assess the efficiency of teaching methods and techniques against the learning outcomes. At the end of the course, the participants defined teacher research as a process that involved the systematic and conventional data collection process. Some of the participants stated that teacher-researchers needed to write a research report, while some

thought that it placed a burden on teachers. It was found that self-discovery and self-awareness were promoted at the end of the program. The researcher also warned that heavy workload, time, and material constraints, contextual factors may prevent teachers from doing research.

Wyatt (2011) supported teachers in an in-service teacher training course in Oman to conduct action research. In this process, teachers were given autonomy to determine their own focus. At the same time, they were guided. In the process, the steps of reading, writing a research proposal, data analysis, and writing were followed. At the end of the application, it was found that teachers gained practical research skills such as observation, planning, data collection, and analysis.

Wyatt and Dikilitaş (2016) conducted a longitudinal qualitative multi-case study at a university in Turkey to find out how research engagement can encourage changes in teachers' self-efficacy beliefs and practical knowledge. The study revealed that feeling inefficiency in conducting classroom research might bring about avoidance behaviour. It was also found that engaging teachers in action research can develop teachers' self-efficacy beliefs. The participants also underlined the importance of mentoring during the process and stated that it would have been very difficult to proceed without this mentoring. Furthermore, there was a full development in the participants' cognitions about research.

2.4.2.2. Preservice Language Teacher Research Engagement

Although there have been some studies on how teachers conceptualize research, far too little attention has been paid to student teachers' conceptions of research. To illustrate, Kizilaslan (2014) attempted to establish the perceptions of pre-service teachers about action research. She presented a survey to 105 pre-service teachers in ELT department and found that they did not know much about action research and were not eager to do research. She recommended that a course on action research be integrated into teacher education programs.

Griffioen (2019) explored the connections between the desire of undergraduates to use their research skills in their future career and their beliefs and attitudes towards research. The results indicated that the inclination of students in using research in their new professional practice is strongly correlated with their conceptions of research and attitudes,

while research practices and context have much less impact. He suggested that the research perspectives of candidates should be recognized in order to boost the efficiency of incorporating research into tertiary education pedagogies.

2.5. Conclusion

In view of all that has been mentioned so far, it might be supposed that there are limited studies on student teachers' conceptions of research. Previous studies of teacher research have not dealt with the integration of student teacher research into the practicum of second language teacher education programmes. Secondly, raising student teachers' awareness of teacher research can help them intend to do research in their future practice. It can also be suggested that studies that explore student teachers' conceptions of research and their attitudes towards research are necessary due to potential benefits.

CHAPTER III

METHODOLOGY

This chapter is concerned with the methodology used for this study. First of all, the research design, participants, data collection and analysis, and procedure of the study are explained. The last section presents how trustworthiness for the study is established.

3.1. Research Design

This study has three different purposes. Firstly, it aims to understand how student teachers' conceptions of research develop during the integration of a module called the Student Teacher Research Module (STRM) as a component of practicum in an SLTE program. The second aim of the study is to understand student teachers' attitudes towards research during this process. The third purpose is to explore student teachers' perceptions about the STRM.

Leech and Onwuegbuzie (2009) determined three different dimensions while explaining mixed research. In terms of mixing dimension, mixed research can be either partially mixed or fully mixed. In terms of the time dimension, it could be either concurrent or sequential. In terms of emphasis dimension, it could be an equal status or dominant status. This study is a partially mixed sequential dominant status design which "involves conducting a study with two phases that occur sequentially, such that either the quantitative or qualitative phase has the greater emphasis." (Leech & Onwuegbuzie, 2009, p.269). In the quantitative phase, a questionnaire was administered to the participants. In the qualitative phase, interviews and reflective journals were used to collect data. In this study, qualitative research represented the dominant phase.

Although this is a qualitative study with dominant status, additional information to flesh out the results was provided with quantitative data. Quantitative data were also used to answer the first research question. The reason for this is to enable the comparison of the collected data.

Miles and Huberman (2002) stated that there are some advantages to using qualitative research methods in education as follows:

- Qualitative data enables us to go beyond questions such as "what" and "how many" and understand "why" and "how" things occur as rich data are collected in a longer period.
- Because of the flexibility of qualitative research, the researcher can understand deeply how the events develop.
- Through qualitative research, it is possible to determine in-depth how people place meanings, perceptions, assumptions, and prejudices on events and processes.

This study was carried out with a qualitative prediction considering the benefits of qualitative research. It might be limited to use a quantitative approach to reveal real beliefs because quantitative analysis at the group level does not represent small changes in the thinking of individuals.

3.2. Participants and Context

This study was conducted in an SLTE program in Turkey. Competencies covered in the current SLTE programs in Turkey are classified into three domains as mandated by Turkey's Higher Education Council's (HEC, in Turkish: YÖK): Language Teaching Subjects, General Culture and Pedagogical Formation. These competencies include "language and linguistics, SLA theories, learner variables, English teaching methods, foundations of learning and teaching, practicum, instruction, assessment/evaluation, and educational/pedagogical subjects." (Mahalingappa & Polat, 2013, p.4)

The context where the study was conducted is a high-ranking public university in Turkey. Each semester at this university lasts 16 weeks. Student teachers take two hours of Scientific Research Methods Course per week in the 4th semester. In their final year, student teachers go to practicum schools for two terms. Student teachers take the KPSS (The selection examination for professional posts in public organizations) to get employed

and are placed in public schools according to the score they receive from this exam. The participants in this study are 16 student teachers. All of the participants are senior students. The participants consist of 3 male and 16 female student teachers.

3.3. The Researcher

The researcher of this study is a research assistant. For this study, she integrated the designed module into the practicum course under the supervision of her supervisor. She provided input and served as a mentor during the integration of the module, but the student teachers were not told that this integration of the module was for her dissertation so that they would not manipulate their natural ideas. Additionally, to eliminate any trustworthiness concerns, close collaboration with student teachers was fostered during the process.

The researcher had the role of a mentor in student teachers' process of learning about the nature of teacher-research and practising it during the practicum course. Theoretical knowledge was provided by the researcher. During the sessions, she clarified the problems and encouraged the participants to provide feedback for their peers. Furthermore, she took the role of a supervisor during their engagement with student teacher research. In individual meetings and whole-group sessions, she provided guidance and support instead of interfering with their decisions.

3.4. Data Collection

Many types of data collection tools were utilized for this study. Data coming from these tools were used to answer the three research questions of the study, as shown in Table 2.

The data collection tools consisted of the following:

(1) The questionnaire for conceptions of research
(2) Follow-up interviews for the questionnaire
(3) Pre-interview
(4) Post-interview
(5) Reflective journals

Table 2

Research Questions and Data Collection Tools

		Data collection tools
RQ1	Conceptions of research	The questionnaire for conceptions of research, follow-up interview
RQ2	Student teachers' attitudes towards research	The questionnaire for conceptions of research, follow-up interview, pre- and post-interviews, reflective journals
RQ3	Perceptions about the module	Reflective journals, post-interview

3.4.1. The Questionnaire for Conceptions of Research

The first two sections of Borg's (2009) "English Language Teachers' Views of Research" questionnaire was used to understand how the student teachers conceptualize research. The first section of the questionnaire is composed of 10 scenarios, all of which include some kind of inquiry, and participants are required to mark how they feel about whether these scenarios are research or not. Participants choose one of four possible ratings (definitely not research, probably not research, probably research, definitely research) in each scenario. In the second section of the questionnaire, they evaluate the characteristics of good research on a 5 Point-Likert type scale (See Appendix 1). The questionnaire was administered twice, just before the integration and after the integration of student teacher research projects in order to track the changes in student teachers' conceptions of research.

3.4.2. Follow-up Interviews

To better understand the reasons for student teachers' rating the scenarios as research and their elaborations about the characteristics of good quality research, oral follow-up data

were collected, and student teachers were asked to explain their choices in the questionnaire.

3.4.3. Interviews

Two semi-structured interviews were conducted with the STs. The first interview is just before the integration, and the second is immediately after the integration of the STRM. The interviews lasted an average of 45 minutes. Interviews with the participants were conducted one-on-one and were recorded with a voice recorder. The interview questions were prepared by considering the relevant literature (See Table 1). For the attitudes towards research, van der Linden et al.'s (2015) categorization was considered in this study. In order to determine the components of research attitudes, relevant literature was synthesized. The questions in the data collection tools were also prepared by considering this synthesis, and the emerging themes were also used for data analysis in this study.

3.4.3.1. Pre-Interview

The pre-interview aimed to understand the STs' conceptions of research in general and attitudes toward scientific research and teacher research (See Appendix 2). This survey was administered to the participants before their research experience.

3.4.3.2. Post-Interview

The post-interview was carried out to determine the changes in the STs' attitudes towards scientific research and teacher research and also the STs' perceptions about the application. The same questions in the pre-interview were asked in the post-interview. However, the post-interview included questions about the perceptions of the STs' about the module and changes in their conceptions of research. (See Appendix 2).

3.4.4. Reflective Journals

The STs were asked to write their reflections about each step of the module. In their reflective journals, they were asked to reflect on the relevant stage of their project. These questions included their experiences regarding that stage, difficulties they had, learning

outcomes, and their general evaluations of the integration of the module as a component of the practicum course (See Appendix 3).

3.5. Procedure

The first pilot study started with an aim to find appropriate tools to understand the STs' conceptions of and attitudes towards research. Necessary adjustments and corrections were made after the first pilot study. For example, the pilot study started with interviews about conceptions of research, and the participants were asked to answer semi-structured questions regarding research. In other words, the conceptions of the research questionnaire were not used with the first pilot group. However, without this, the answers to the interview questions which were asked to understand how the STs conceptualized research were very general. Borg's "Language Teacher's Views of Research" questionnaire was administered to a second pilot group, and in the interviews conducted after the scenarios, it was seen that the STs focused more on the subject and how they conceptualized research was understood more clearly.

The pilot study revealed that the conventionalized notion of research was mostly related to scientific research, while research as a practical inquiry was related to teacher research. For this reason, interview questions were redesigned, and instead of asking the questions under the title "research," the questions were asked under two headings, which are scientific and teacher research.

In the first pilot group, because of the lack of collaborative teacher support and mentoring, most STs could not complete their projects. These barriers were considered for the actual study. It was understood that STs needed more guidance and support during this process because of the lack of such an experience.

3.5.1. Design of the Module

In this study, a module was designed for STs to conduct a small-scale student teacher research project within the scope of the practicum course. It is stated in the literature that teacher research has a flexible methodology. While designing the module, teacher research studies in the literature and definitions of research were considered (Admiral et al., 2017; Borg & Sanchez, 2015; Carter & Halsall, 1998; Cochran-Smith & Lytle, 1999; Reis-Jorge,

2007; Richardson, 1994). Nunan (1992) states that "a systematic process of inquiry consists of three elements or components, which are (1) a question, problem or hypothesis, (2) data, (3) analysis and interpretation (p. 3). Nunan and Bailey (2009) state that research should be published "for critical scrutiny" and "to inform the field." In this study, ST research projects have been integrated into the course by following the steps below:

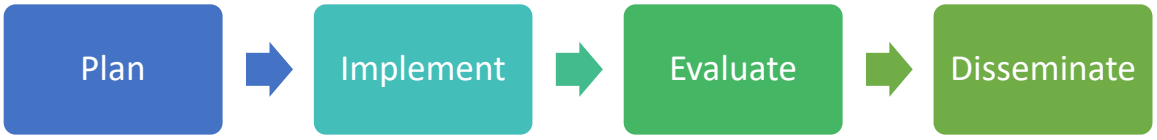


Figure 1. Steps of the Student Teacher Research Module

The planning stage includes finding a topic, identifying research questions, and writing a research project proposal. The implementation stage consists of three steps. In the first step of this stage, a data collection tool in line with research purpose is developed, or an existing tool is chosen. In the second step of implementation, data is collected. In the third step, the collected data are analysed. In the evaluation stage, STs are expected to derive and interpret their findings. In the final stage of the module, which is dissemination, STs write a research report and present their studies in a student teacher research conference.

The module aims to provide background information for student teachers about the nature of teacher research and to increase their awareness of teacher research. It is thought that conducting research as part of the internship in the teacher education program may contribute to student teachers. For this reason, the STs were asked to conduct small-scale research projects as part of their practicum course. The reason for integrating this practice into the practicum is that a practicum school is a place in which student teachers can access to students and collect data more easily.

3.5.2. Steps of the Implementation Process of the Study

Step 1. Introduction to the Module

The study started with an introduction to the module and the administration of Borg's (2009) "English Language Teachers' Views of Research" questionnaire. In this step, the STs were asked to observe the classroom environment at the practicum school for two weeks and write an essay. These essays were gathered from the STs so that the problems they observed could be identified, and relevant topics from problem analysis could be translated into research questions. Put differently, the purpose of gathering these first impressions was to identify the kinds of topics that are suitable for the STs' research projects. It was assumed that these essays would create a need for the inquiry they would carry out. As the STs moved from the real problems they had observed in their practicum school, offering solutions to these problems by doing research could motivate them.

Step 2. Follow-up Interview and Pre-Interview

The follow-up interviews were carried out in order to understand the underlying reasons for the STs' answers to the questionnaire. The aim of the pre-interview was to collect more data about the STs' conceptions of research and their attitudes towards research (See Appendix 2).

Step 3. Session 1: Introduction to Teacher Research

The first session of the study was carried out to introduce the nature of teacher research to the STs and raise their awareness about teacher research. Common characteristics that are used while defining teacher research have been taken into consideration for this study. While providing input about teacher research, the following basic criteria for teacher research emphasized in the literature were introduced to the STs:

- Teacher research is beyond reflection
- Dissemination is crucial.
- Teacher research is conducted in teachers' own context.
- Teacher research is systematic.

During this workshop, the participants were shown examples of teacher research projects and were asked to examine them in detail. Samples of teacher research which are published by The IATEFL ReSIG (2019) and BA teacher research projects, which were conducted by

the participants of BA TESOL program under the supervision of Simon Borg and published on Oman Educational Portal by Sultanate of Oman Ministry of Education (2009), were shown and assigned for a detailed analysis. Suggestions for finding a focus were also made (See Appendix 5) by considering Burns (2009, p. 24).

After the first session, the STs were asked to reflect on what they had learned about the nature of teacher research, discuss how BA projects could contribute to a student teacher, and choose one of the statements below and give their reasons (Reflective Journal Assignment 1). They were reminded that they could choose both of them.

- The idea of conducting small-scale teacher research in practicum excites me because
- The idea of conducting small-scale teacher research in practicum worries me because

The STs were also assigned to answer the questions related to "Finding a broad topic area" (Project Assignment 1). The STs undertook small-scale research projects on a topic they selected. They chose a topic while they were developing their teacher research knowledge and skills. They were offered guidance on their choices and refinement of the topic. The projects were feasible within the timeframe. They were also reminded that the projects must be appropriate and feasible to investigate in the practicum context.

Step 4. Session 2: Research Questions and Data Collection Tools

In the second session, the input about research questions and data collection process were provided. After this session, the STs were expected to write a research proposal by considering the provided outline (Project Assignment 1).

Step 5. Session 3: Feedback for Proposals

In the third session, feedbacks on their research proposals were given. The participants were asked some guiding questions in order to help them question the suitability of the research question, whether they would find answers to their questions with the current research methods, and they were also asked to revise their proposal based on suggestions. After this session, the STs were supposed to write a reflection of what they

learned about the planning process and the problems they experienced (Reflective Journal Assignment 2) and send a revised version of their proposal.

After this session, the participants tried to find and develop a data collection tool (Project Assignment 3) and received support from the researcher during this process.

Step 6. Session 4: Feedback for Data Collection Tools

In the fourth session, a feedback session was organized to evaluate the data collection tools. They were asked to reflect on pre-implementation (Reflective Journal Assignment 3). During the implementation phase, the STs collected data in their practicum school.

Step 7. Individual Meetings

During the post-implementation, individual meetings were carried out for data analysis. The STs analyzed their data and reflected on the implementation and post-implementation stage. (Project Assignment 4, Reflective Journal Assignment 4).

Step 8. Session 5: How to Evaluate and Disseminate

During the evaluation phase, participants were asked to evaluate and analyze the data they collected. At this stage, support was obtained from the researcher. In the fifth session, how to evaluate and disseminate were introduced. Before the disseminate phase, the researchers were informed about the topics under which they would make their presentations. While disseminating their small-scale project, the STs were asked to follow the conventional structure of a research paper. The aim is to help them appreciate that teacher research is systematic and rigorous.

Step 9. Student Teacher Research Conference

Finally, a student teacher research conference was organized. After the conference, reflections about the dissemination were written (Reflective Journal Assignment 5), and the participants sent a written report of their study to the researcher (Project Assignment 5).

Step 10. The Questionnaire for Conceptions of Research and Follow-up Interview

The first two sections of Borg's (2009) "English Language Teachers' Views of Research" were administered again after the integration of student teacher research projects in order to track the changes in the STs' conceptions of research and in the follow-up interviews, the STs were asked to explain the reasons for the changes in their answers to the scenarios.

Step 11. Post-interview

The post-interview was carried out to determine the changes in the STs' attitudes towards scientific research and teacher research and also the STs' perceptions about the application. The same questions in the pre-interview were asked in the post-interview. However, the post-interview included questions about the perceptions of the STs' about the module and changes in their conceptions of research. (See Appendix 2).

3.5. Data Analysis

Descriptive statistics was used to analyze quantitative data of the study, and for qualitative data, content analysis on MAXQDA 2018.2 was done. MAXQDA is a functional computer software program for qualitative data analysis. Because of the intensity of qualitative data in this study, it could be hard to code and retrieve large data sets manually (See Appendix 9). Some qualitative data were also quantified for descriptive statistics on MAXQDA.

During the analysis of the semi-structured interviews, each audio recordings were listened, and transcriptions were read several times. The analysis of the answers given to the semi-structured questions and reflective journal entries was classified according to certain categories summarized. The main codes for the attitudes towards research were pre-determined by considering van der Linden et al.'s (2015) categorization. In order to determine the components of research attitudes, the relevant literature was synthesized (See Table 1). This synthesis brought about some themes. These emerging themes were also considered in order to determine the sub-codes for research attitudes during the data analysis in this study. The remaining themes and sub-themes emerged out of the data. These data (i.e., interviews and journals) were submitted to constant comparative analysis. The data were grouped according to the categories and interpreted in light of the study's

overall focus on teacher research. The data were coded, keeping the research questions in mind.

The codes were assigned to the relevant statements in the documents, which were grouped as the first follow-up interview (F1), pre-interview (I1), reflective journals (R1, R2, R3, R4, R5), second follow-up interview (F2) and post-interview (I2). It enabled a systematic method to retrieve the relevant data.

3.6. Validity and Reliability

Validity refers to "the appropriateness, correctness, meaningfulness, and usefulness of the specific inferences researchers make based on the data they collect" (Fraenkel & Wallen, 2012, p.148). Researchers make inferences based on the data, and they need to support these inferences by collecting and analyzing evidence. Reliability refers to "the consistency of the scores obtained" (Fraenkel & Wallen, 2012, p.148). While the validity and reliability are considered in quantitative research, trustworthiness is necessary for qualitative research instead of validity and reliability.

Lincoln and Guba (1985) set the following criteria to determine whether qualitative research is trustworthy: Credibility, transferability, confirmability, and dependability. Credibility means that to what extent the research results are credible for the population. In order to achieve this, data must be collected for a long time. Patton (1999) defines credibility as the power of the collected data to represent the truth. The researcher has the responsibility to reflect the whole reality of the analysis process. The researcher must be clear and frank in terms of data collection and analysis. Transferability means whether the findings are valid in a similar context. In order to achieve this, the research design must be given in detail, which is called a thick description. Confirmability is provided by coding the data by another researcher. Dependability refers to the use of triangulation. (Mackey & Gass, 2005).

Triangulation is another method used to convince readers about the reliability of data and results in qualitative studies. Its purpose is to enrich the data as much as possible. There are several forms of triangulation (Patton, 1999). Methods triangulation is the use of multiple data tools to ensure consistency of the findings. The triangulation of sources means using various data sources within the same method. Using different populations, conducting

interviews with people at different points in time could be the ways to provide this kind of triangulation. Analyst triangulation is the analysis of collected data by different individuals. Theoretical triangulation refers to utilizing multiple theoretical perspectives while analyzing the data.

For the trustworthiness of qualitative, thick description, peer scrutiny, reflective commentary, member checks, and negative case analysis are considered. It is important to present findings in rich detail, which is called thick description, as it enables the reader to identify with the study (Dörnyei, 2007). Another way of trustworthiness is member check in which participants make comments on emerging themes and results. Furthermore, prolonged engagement enables the establishment of credibility with participants. Negative cases should be explained to build confidence in the results and add to the credibility.

This study seeks to provide trustworthiness in the following ways:

- As many details as possible about data collection tools and the procedure were provided.
- Multiple data collection strategies such as a questionnaire, interviews and written reflections were used for methods triangulation.
- For analyst triangulation, two intercoders were consulted. Qualitative data and interpretations underwent peer debriefing to facilitate internal validity.
- The accuracy of this data was checked with the participants. All participants were asked to interpret the data they provided. The data gathered were already interpreted by the researcher. What the participants needed to do was to state whether they agreed or disagreed with these comments. Some of the verbal data were given to these people, and they were asked to determine whether there is an overlap between the codes determined by the researcher and the data. The most representative excerpts were found to show the codes and categories derived from the data.
- Prolonged engagement enabled the establishment of credibility with participants.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents the findings and discussion of the study, focusing on the three research questions. The chapter is divided into three main sections, each of which presents the results relating to one of the research questions.

4.1. Conceptions of Research

The first research question attempts to understand the STs' conceptions of research during the integration of the STRM. First of all, the first two sections of Borg's (2009) "English Language Teachers' Views of Research" questionnaire were used to answer this research question. These two sections include a) evaluation of scenarios, b) characteristics of good quality research. In the first section, the participants assessed ten scenarios and selected each of the four possible ratings for each scenario. All of the scenarios include some kind of inquiry, and the participants are required to mark how they feel about whether these scenarios are research or not. In the second part, the participants were asked to indicate the importance level of the items about the features of good quality research on a 5-point Likert scale (5 = very important, 1 = unimportant). Follow-up interviews about the questionnaire, pre- and post- interviews, and reflective journals have also been used to answer the first research question.

4.1.1. General Conceptions of Research

4.1.1.1. Before the STRM Integration

In order to understand the STs' conceptions of research before the STRM, they were asked to rate the activities in ten scenarios as research or not. The findings for their evaluations are summarized in Table 3, which shows the percentage of the student teachers selecting each of the four possible ratings for scenarios.

Table 3

Student Teachers' Assessment of Ten Scenarios (Pre-test)

Scenarios	*Number*	*Definitely not research (%)*	*Probably not research (%)*	*Probably research(%)*	*Definitely research(%))*
1	16	6	50	38	6
2	16	0	0	25	75
3	16	25	31	25	19
4	16	0	0	19	81
5	16	6	38	31	25
6	16	0	19	31	50
7	16	13	38	44	6
8	16	19	44	13	25
9	16	0	19	56	25
10	16	6	38	19	38

As seen in Table 3, no respondents felt that Scenarios 2, 4, 6, and 9 were not definitely research. The highest-rated scenarios as definitely research were Scenario 4 (81%), Scenario 2 (75%), Scenario 6 (%50). Similar ratings were also reported by Borg (2009) and İnceçay (2015) as these scenarios are closely related to a traditional notion of research.

Scenario 4 was recognized as definitely research by 81% of the student teachers. The scenario describes an academician who administers a survey to 500 teachers on the use of computers in language teaching. The researcher uses statistics to analyze the survey results, and the article is published in an academic journal. It can be seen that Scenario 4 includes

elements that can be associated with the conventionalized notion of research, such as a large number of people and statistics. Here are some comments of students who rated this scenario as definitely research:

> ***E1:*** *"It speaks for itself. He employs a certain method. He administers a questionnaire and turns the data into numbers using statistical analysis. After that, he writes something based on numbers. It is very evidently research." (S13.F1)*
>
> ***E2:*** *"There is a high number of people. He collects data and submits it to an academic journal." (ST10.F1)*
>
> ***E3:*** *"Administering a questionnaire, reaching a large number of people, and collecting data from them. I think all of them provide valid evidence. It also includes statistics, analysis and an article." (ST7.F1)*

Scenario 2 also received a high rating, with 75% judging it to be definitely research and 25% probably research. The scenario describes a teacher trying a new approach to teaching writing in his classroom for two weeks. The teacher in the scenario video records his lessons and collects data from the students. After that, he analyses these data and presents the results to his colleagues in a staff meeting. While giving their reasons in the follow-up interviews, student teachers referred to characteristics such as process and comparison of groups. The following excerpts present the associations they made with research:

> ***E4:*** *"It includes a certain process. He collects data, but not substantially. Finally, he prepares something -I don't know how to name it- and then presents it." (ST5.F1)*
>
> ***E5:*** *"Some research methods are employed. There is a control group. A certain method is tried out, and then the outputs which emerge out of this method are subject to scrutiny. It is more formal." (ST13.F1)*

Scenario 6 was also highly rated, with 50% rating it as definitely research and 31% rating it as probably research. The scenario describes a teacher who compares two groups to understand which of the two different methods of vocabulary teaching is more effective. At the end of the application, the teacher decides to use the method that works most in her practice. The scenario reflects characteristics that are typically associated with research. The STs referred to pre- and post-test design while giving their reasons for their choices, as can be seen in the utterances below:

> ***E6:*** *"It includes a process and data collection. Two groups are compared. As the results show itself with all these things, to me, it is research." (ST4.F1)*
>
> ***E7:*** *"We were reading such kinds of articles in our Scientific Research Methods Class. The order seemed to be similar. Comparing the groups and trying out things*

separately on them. There is a process, and then he checks whether something has changed. It seemed, to me, truly research." (ST9.F1)

E8: *"As far as I remember from the Scientific Research Methods class, there are two different classes and the teacher employs different methods. There is a pre-and post-test." (ST14.F1)*

In order to allow for the overall direction of the STs' responses to each scenario, the results were collapsed into two categories, as can be seen in Figure 2. That is, the findings of the scenario evaluation are presented in the categories "not research" (*includes "definitely not research" and "probably not research")* and "research" (*includes "probably research" and "definitely research."*

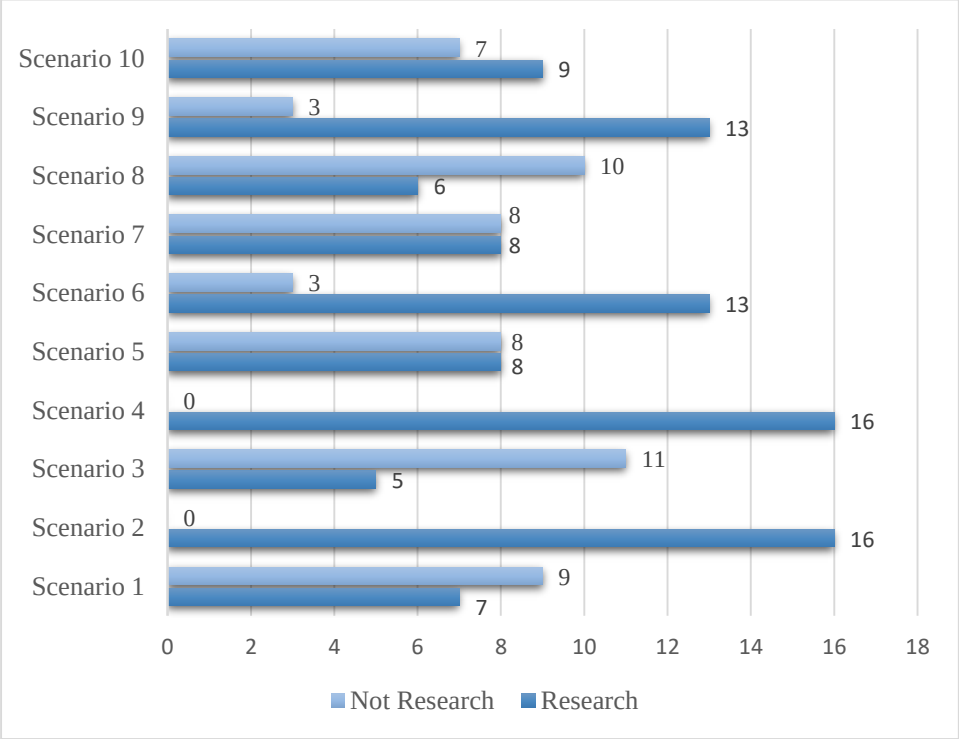


Figure 2. Frequency of student teachers' assessment of scenarios (Pre-test)

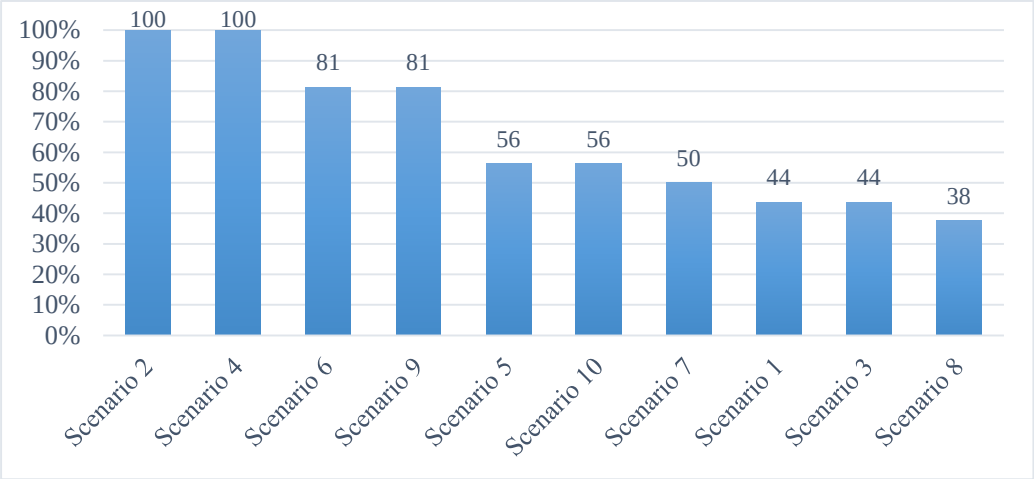


Figure 3. Percentage of student teachers' rating scenarios as research (Pre-test)

Of all the scenarios rated as research, the Scenarios 8, 3, and 1 were the least-rated ones. Among them, Scenario 8 received the lowest rating. Only 38 % of the STs judged it to be in the research category. In Scenario 8, a teacher who shapes her practice based on the feedback received from 5 out of 30 students in her class is mentioned. The STs gave different reasons for their choices. For example, ST11 focused on the lack of an end-product. ST2 saw it as a part of the lesson. ST9 and ST10 underlined that the activities mentioned are just for the own benefits of the teacher. ST16 referred to the low number of feedback forms received. The following are the comments from the first follow-up interview:

> ***E9:*** *"There is not an end-product here. I thought that she did it in order to understand what would be more suitable for her context. It has a data collection process. However, because of the lack of an end product, it is not research." (ST11.F1)*
>
> ***E10:*** *"I can't say that it is definitely not research as she collects data. However, she will gain benefits just for herself. As it is about herself, it is not research." (ST10.F1)*
>
> ***E11:*** *"I can't find something here to call it research. It is like a lesson. It includes feedback. The teacher does not search for something. This is just a part of the lesson." (ST2.F1)*
>
> ***E12:*** *"Students provide feedback about the lesson. The teacher collects them just for his own class. It is something he does for himself. Is it possible to publish it in a journal? All in all, it belongs to that class."(ST9.F1)*
>
> ***E13:*** *"Only 5 out of 30 students provided feedback. There is no data present." (ST16.F1)*

We can understand from the questionnaire and follow-up data that the STs had a conventionalized notion of research, which is a finding in line with Borg (2009). Although these data provide support for the student teachers' conventionalized notion of research, there were some student teachers who recognized routine and reflective activities as research. The STs judging them to be in the research category referred to reflective and routine activities in the follow-up interview. The reasons they stated for evaluating these scenarios as research are "modifications in teaching, trying out something new in the classroom, acting on student needs and problem-solving." It can be seen that personally-motivated studies or self-monitoring studies were also considered as research by some STs. For example, teachers' getting feedback and shaping teaching based on this feedback was also considered to be research. The following excerpts exemplify STs' judging of Scenario 8 as research:

> ***E14:*** *"I am not sure, but I thought that students' ideas are likely to affect teachers. If the teacher makes use of them and changes his practice by considering these ideas, it is research." (ST7.F1)*
>
> ***E15:*** *"Giving a feedback form to a group of people, getting their ideas, and deciding how to teach based on these data. They all make this scenario research." (ST1.F1)*

Similarly, Scenario 1 describes a teacher who notices an ineffective activity, thinks over it after the class and takes notes in her diary. After trying something different, the activity turns into an effective one. Here are some comments which exemplify the STs' rating Scenario 1 as research:

> ***E16:*** *"First of all, his note-taking attracted my attention a lot. He writes the positive and negatives sides of the activity in his diary and thinks over them. It is not a large-scale one but his thinking over it, attempting to improve it and trying something different in the next class. Because of such kinds of things, I thought that it could be probably research." (ST2.F1)*
>
> ***E17:*** *"Not a large-scale study. It is a study conducted by a teacher for his class in his own way." (ST4.F1)*

In the follow-up interviews, while they were explaining the reasons for rating the scenarios as research, the STs mostly referred to data collection, dissemination, and large sample. They mostly referred to a questionnaire while talking about data collection. The STs' references to a journal, article, or other end-products were included in the code "dissemination." The other common reasons they referred to were data analysis, process, group comparison, statistics, and modification in teaching. Figure 4 shows the code cloud

created in Maxqda with a minimum of 5 frequencies for the STs' judging scenarios as research. It can be drawn from the code cloud that the STs were already familiar with the components of research. It is not surprising since they had scientific research methods course when they were sophomores.



Figure 4. Maxqda code cloud for "recognizing scenarios as research"

On the other hand, while the participants were giving their reasons for their judgements of scenarios as non-research, they mostly referred to subjectivity, lack of data collection, and a small number of people. Figure 5 shows the code cloud created in Maxqda with a minimum of 3 frequencies for the STs' judging scenarios as non-research. Here is an excerpt by ST4 who criticizes the small number of people in Scenario 8:

> ***E18:*** *"She could get feedback from just 5 out of 30 students. There are 30 students in the classroom. I think everybody's opinions are important." (ST4.F1)*



Figure 5. Maxqda code cloud for "recognizing scenarios as non-research."

Table 4 lists the student teachers' ratings regarding the characteristics that should be in good research in descending order. The first feature that was highly rated as important is "The researcher is objective." followed by "Hypotheses are tested." These answers support the view that student teachers' conceptions of research are aligned with "more scientific notion of inquiry" (Borg, 2013, p.63).

Table 4

Student Teachers' Views on the Importance of Research Characteristics (Pre-test)

Characteristics	**Mean**	**SD**
"g. The researcher is objective."	4.69	0.70
"d. Hypotheses are tested."	4.56	0.63
"b. A large volume of information is collected."	4.38	0.72
"c. Experiments are used."	4.38	0.72
"e. Information is analyzed statistically."	4.38	0.5
"k. Variables are controlled."	4.06	0.85
"a. A large number of people are studied."	4.00	0.97
"j. The results give teachers ideas they can use."	3.94	1
"f. Questionnaires are used."	3.69	0.87
"h. The results apply to many ELT contexts."	3.56	0.89
"i. The results are made public."	3.25	0.77

Data from the pre-interview also supported student teachers' conventionalized notion of research. Here are some excerpts that emphasized the statistics and a large number of participants:

> ***E19:*** *"Studies must include lots of people. A great number of data are needed to ensure normal distribution." (ST13.F1)*
>
> ***E20:*** *"Statistically analyzed data and using graphics seem, to me, more credible." (ST14.F1)*
>
> ***E21:*** *"A study with a small number of people won't be useful." (ST12.F1)*

These comments reveal that most of the STs consider statistical analysis as a criterion in good research. These assessments of what characteristics should be in good research can

give us ideas about why research is an activity for many teachers who do not want to be involved in. It can be seen that STs had a traditional view of research, but some of them also recognized reflective activities that do not include a systematic process as research.

All in all, these findings seem to provide evidence for the following:

(1) The student teachers' conceptions of research seem to be conventionalized. These findings are consistent with other research, which has found that teachers have a conventionalized notion of research (e.g., Banegas, 2018; Borg, 2009; Shkedi, 1998). The STs' emphasis on statistics and a large group of people supports previous research findings, which show that teachers consider research as something that involves statistics, hypotheses, and large samples (Borg, 2009).

(2) There seemed to be diversity among the STs in terms of their understanding of what counts as research. Their research conceptions seem to be mostly related to scientific research notions, but some of them also recognize some personally-motivated endeavour or reflective activities as research. The diversity among the STs in terms of their understanding of what counts as research is in agreement with Tavakoli and Howard (2012), in which the teachers' responses demonstrate that they have a variety of different interpretations of what constitutes research. The teachers in their study also regarded asking an experienced workmate, observing a colleague, trying out a new method in the classroom as various kinds of research. The same holds true for this study. Some of the participants in this study also thought that trying out new activities in the classroom could be considered as research.

(3) In Görsev Boran's study (2018), the participants thought that both academics and teachers could do research, but it turned out that the participants did not know the typical features of teacher research. This study also revealed similar results. In the relevant literature, teacher research is considered to be beyond reflection. However, some of the participants in the present study tended to label routine reflective activities as teacher research. Moreover, few participants mentioned dissemination and systematicity during the follow-up interviews that were conducted before the integration process, although they are considered to be the typical features of teacher research.

(4) These findings also might provide evidence for the fact that research exists in two different forms in the STs' minds, which are scientific research and teacher research. For

most of the participants, the former is a kind of research that is conducted mostly by the academicians and include a large number of people and statistics, while the latter is the one which is mostly associated with reflective teaching practices.

4.1.1.2. After the STRM Integration

The questionnaire for the conceptions of research was administered again after the module was completed. The participants were asked to rate the activities in ten scenarios as research or not. The findings for their evaluations are summarized in Table 5, which shows the percentage of the student teachers selecting each of the four possible ratings for scenarios. Figure 6 indicates the results which were collapsed into two categories in order to allow for the overall direction of the STs' responses to each scenario.

Table 5

Student Teachers' Assessment of Ten Scenarios (Post-test)

Scenarios	*Number*	*Definitely not research (%)*	*Probably not research (%)*	*Probably research(%)*	*Definitely research(%)*
1	16	31	31	25	13
2	16	0	6	13	81
3	16	44	25	6	25
4	16	0	6	6	88
5	16	6	13	38	44
6	16	6	13	31	50
7	16	31	25	19	25
8	16	38	31	6	25
9	16	0	25	25	50
10	16	6	6	25	63

As can be seen in Table 5, the highest-rated scenarios as definitely research were Scenario 4 (88%), Scenario 2 (81%), Scenario 10 (%63). It is not surprising that Scenario 4 and 2 were highly rated again by the STs since they include elements that are closely associated with traditional research.

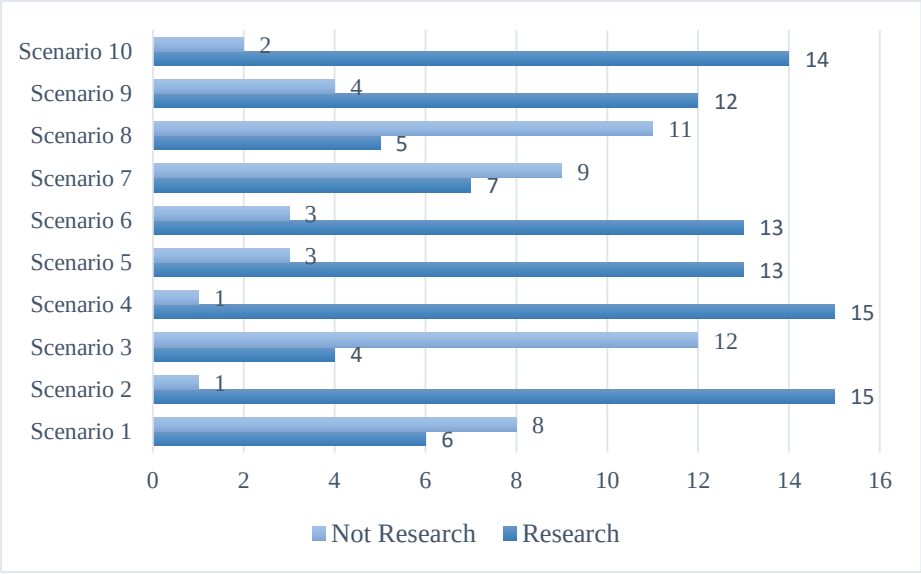
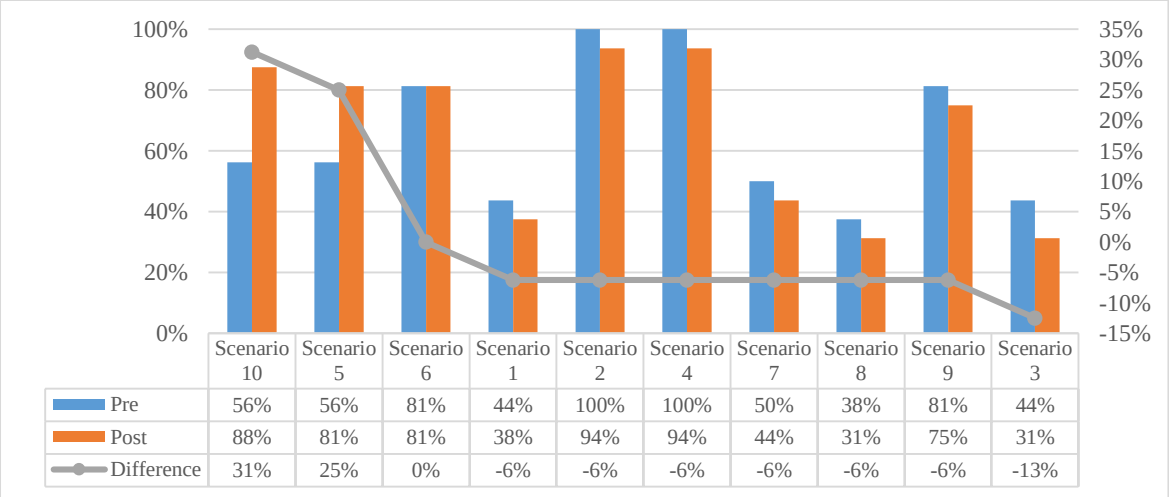


Figure 6. Frequency of student teachers' assessment of scenarios (Post-test)



	Scenario 10	Scenario 5	Scenario 6	Scenario 1	Scenario 2	Scenario 4	Scenario 7	Scenario 8	Scenario 9	Scenario 3
Pre	56%	56%	81%	44%	100%	100%	50%	38%	81%	44%
Post	88%	81%	81%	38%	94%	94%	44%	31%	75%	31%
Difference	31%	25%	0%	-6%	-6%	-6%	-6%	-6%	-6%	-13%

Figure 7. Changes in judging scenarios as research

As can be seen in Figure 7, there were some changes in the STs' judgements regarding scenarios. Although there was an increase in rating Scenario 10 and Scenario 5 as research, there was a decrease in the rest, except for Scenario 6, which remained the same.

The biggest change was in their evaluations of Scenario 10. While 56% of the participants judged it to be research in the pre-questionnaire, there was a 31% increase in the post-questionnaire. Scenario 10 describes a head of the English department who would like to learn about teachers' ideas about the new coursebook. She administers a questionnaire to all teachers, studies their answers, and then disseminates it at a staff meeting. In the follow-up interviews conducted after the implementation, the student teachers were asked to

explain the reasons for the changes in their evaluations. Here are the excerpts which show the changes in evaluating Scenario 10:

> ***E22:*** *"It includes an oral presentation at the end, but no article or written work." (ST11.F1)*
>
> ***E23:*** *"I think it is research because of administering a questionnaire, analysis of data, and presenting the results." (ST11.F2)*

The excerpts show that ST11 considered Scenario 10 as non-research at first, but later she rated it as research. ST11 also started to appreciate the unwritten form of research. Having an oral presentation at the end of the process might have influenced ST11 as she mostly focused on the steps as compared to the first follow-up interview.

ST14 considers the scenario to be a subjective work at first. However, at the end of the process, she judges it to be research as it includes a process. Here are the ST14's excerpts from the first and last follow-up interview:

> ***E24:*** *"It seems quite subjective. Just the teachers' ideas are gathered. I am not sure it would bring objective results." (ST14.F1)*
>
> ***E25:*** *"A questionnaire is administered, and data are gathered. At least, it includes a process. "(ST14.F2)*

Another example is related to general conceptions of research in ST15's mind. Although ST15 valued research on a deeper subject in the beginning, later, she valued dissemination and data gathering.

> ***E26:*** *"The research in my mind is something which is carried out on a lesser-known and serious topic, so I don't consider it to be research." (ST15.F1)*
>
> ***E27:*** *"It includes a tool, participants, and data collection. At the end of the process, it is made public." (ST15.F2)*

When it comes to Scenario 5, 81% of the STs judged it to be in the research category after the implementation, although 44% of them recognized it as non-research before the implementation. After the implementation, ST8 considered it to be research and referred to data collection, process, and dissemination:

> ***E28:*** *"It includes a subjective perspective. It has no theory or basis. It is too subjective, and they did something in their own way." (ST8.F1)*
>
> ***E29:*** *"It includes multiple perspectives. I think it is more objective. Multiple observations are done. It is more reliable. Finally, it is made public." (ST8.F2)*

Other interesting results provide evidence for the appreciation of dissemination, triangulation. The fact that Scenario 6, which contains criteria appropriate to the traditional notion of scientific research, has not been published caused some participants not to label it as research. For example, ST5 and ST10 recognized it as non-research because of the lack of dissemination.

> ***E30:*** *"It is probably not research because it has not been published somewhere." (ST5.F2)*

> ***E31:*** *"It includes neither literature review, nor an end-product." (ST10.F2)*

The following excerpts exemplify that triangulation started to draw the attention of ST1. She underlined that it is important to collect data from multiple channels:

> ***E32:*** *"After doing research, it seemed quite simple to write just an article after doing research. Furthermore, administering just a questionnaire didn't seem very reliable to me. I think it should be supported by other data collection tools." (ST1.F2)*

Unlike the first interview, ST12 appreciated qualitative tools. Although he focused on statistics, numbers, generalizability, and large sample in his first interview, he stated that he found it useful to gather qualitative data in a classroom.

> ***E33:*** *"To me, research was limited to numerical data. I was really impressed by the data collected by some of my friends. They collected qualitative data and coded them. I absolutely liked it. I believe that such kind of data could be more useful than quantitative data." (ST12.I2)*

Although some of the scenarios, such as Scenario 1 and Scenario 7, do not conform to standards of teacher research introduced in the sessions, the STs still rated them as research. The fact that all the scenarios include some kind of inquiry might lead the participants to consider the activities as related to research. It implies that it might be hard to identify clear-cut conceptions of research. It is also possible to say that there is a variety of interpretations of research among the STs. Although İnceçay (2015) used this tool to check the research knowledge of teachers, it might be misleading to evaluate research knowledge by using such a tool since it was developed to identify conceptions of research. Furthermore, research knowledge is beyond the scope of this study since it focuses on beliefs and attitudes.

Table 6

Student Teachers' Views on the Importance of Research Characteristics (Post-test)

Characteristics	Mean	SD
"g. The researcher is objective."	4.88	1.17
"j. The results give teachers ideas they can use"	4.75	0.96
"k. Variables are controlled."	4.13	0.77
"d. Hypotheses are tested."	4	0.97
"e. Information is analyzed statistically."	4	1.03
"c. Experiments are used."	3.94	1.26
"b. A large volume of information is collected."	3.88	0.34
"a. A large number of people are studied."	3.81	0.96
"h. The results apply to many ELT contexts."	3.63	1.02
"i. The results are made public."	3.63	0.45
"f. Questionnaires are used."	3.56	0.81

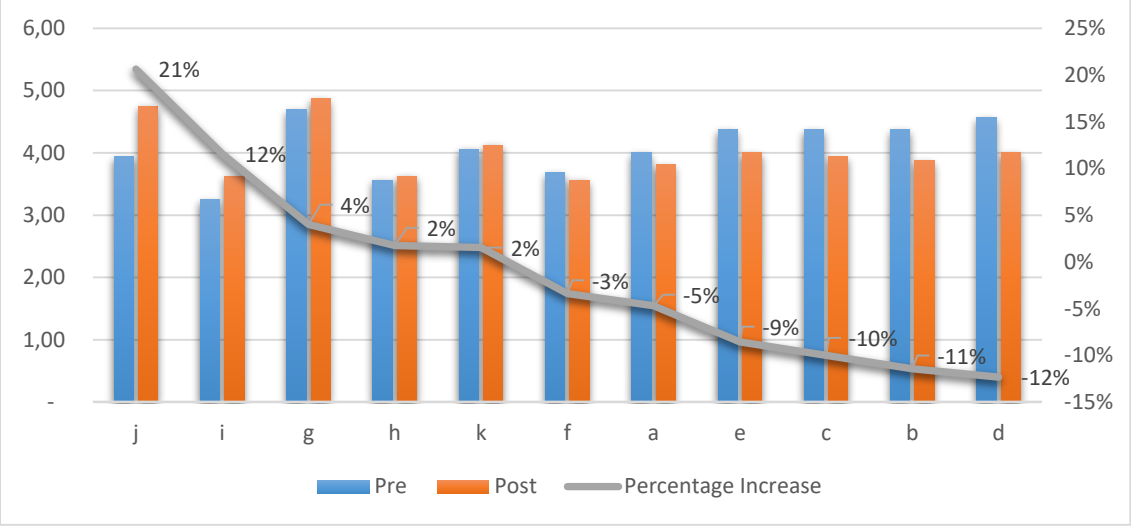


Figure 8. Changes in views on the importance of research characteristics

Table 6 shows the student teachers' views on the importance of research characteristics after the implementation, and Figure 8 indicates the changes in the STs' views about these characteristics. When compared to the first administration, the biggest increase was related to "j. The results give teachers ideas they can use" (**M=** Pre: 3.94; Post: 4.75). There was

also an increase in “i. The results are made public.” (**M=** Pre: 3.25; Post:3.63). These results could be directly related to their hands-on experience of teacher research and the opportunity for presenting their studies at the student-teacher research conference, which was organized at the end of the process. In the post-interviews, the STs stated that their friends' projects gave them ideas that they could use in their classrooms and that they would provide benefits for everyone if teacher research studies are published. This seems to be one of the most noteworthy results because the participating student teachers emphasized the importance of disseminating teacher research and giving ideas to teachers that they could use in their classrooms. It can also be said that they tended to adopt a more pragmatic stance about research at the end of the process.

The biggest decreases were in “d. Hypotheses are tested.“ (**M=** Pre: 4.56; Post:4), “b. A large volume of information is collected” (**M=** Pre: 4.38; Post:3.88). In the second interview, the answers about the characteristics that should be present in good quality research show that the STs emphasized criteria such as a large number of people, statistical analysis, and testing of hypotheses.

To summarize, these results seem to provide evidence as follows:

(1) There were some changes in the STs’ conceptions of research after the STRM integration. Most of the STs tended to appreciate the unwritten form of research and systematicity of research after the STRM integration. Moreover, they mostly emphasized the importance of disseminating teacher research and giving ideas to teachers that they could use in their classrooms. It seems that they tended to adopt a more pragmatic stance about research at the end of the process.

(2) The other noteworthy changes included the STs’ appreciation of triangulation and qualitative studies. They also underlined the possibility of conducting research with a small number of participants after the STRM integration, although they mostly focused on studies that are conducted on a larger group of people and use statistics before the STRM integration.

(3) The findings also imply that it might be hard to identify clear-cut conceptions of research as there is a variety of interpretations of research among the STs after the STRM integration as well.

4.1.2. Conceptions of Scientific Research

The findings revealed that the student teachers' conceptions of scientific research were rigid. The concepts associated with scientific research are given in Figure 9. As the study included a module for student teacher research, it is quite normal that how the STs conceptualized scientific research would not be affected directly. We can say that because of the dominance of scientific research in their mind, their conceptions of research seem to be conventionalized as well.



Figure 9. Maxqda code cloud for the scientific research concept

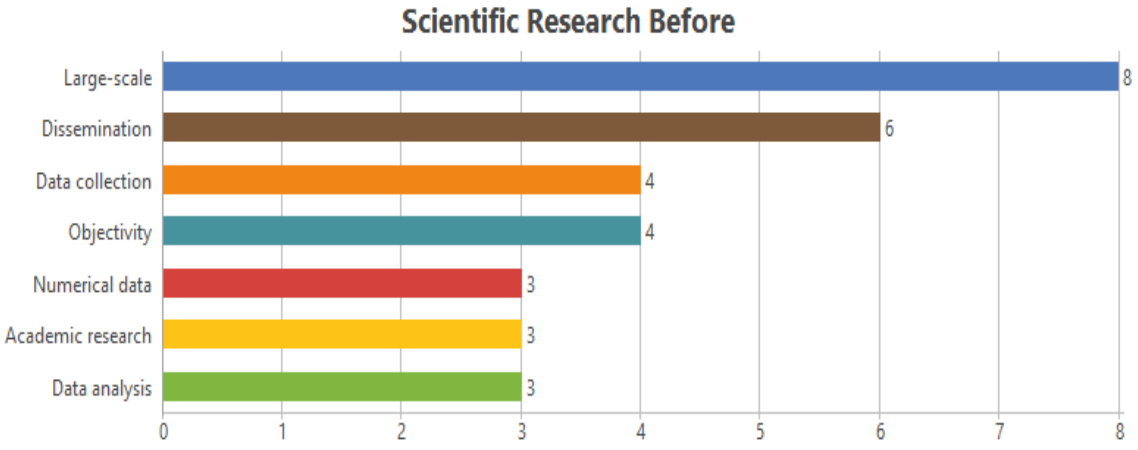


Figure 10. Maxqda frequency analysis for the scientific research concept

The STs were asked to talk about what came to their mind when they thought of scientific research. The concepts associated with scientific research were also quantified. The codes that emerged with a minimum of 3 frequency are given in Figure 10. While they were defining scientific research, they mostly referred to a large-scale study, including a large

number of people, dissemination, data collection, and objectivity. The following excerpts illustrate their associations with scientific research:

> ***E34:*** *"Objectivity, numerical data, academic language, observation, experiment, analysis." (ST2.I1)*
>
> ***E35:*** *"I think of writing articles, collecting data, a long process, and interaction. It is also necessary to be objective". (ST4.I1)*
>
> ***E36:*** *"To me, scientific research is a kind of research that I can associate with numerical data."(ST12.I1)*
>
> ***E37:*** *"Having a purpose, a sample, methods, data collection from a large group of people, analysis, and presentation."(ST15.I1)*
>
> ***E38:*** *"Adequate resources, lots of people, and numerical data. So it looks more striking." (ST14.I1)*

It can be said that the STs' conventionalized notion of research could be related to the dominance of scientific research concepts in their minds. Although they still appreciated the characteristics associated with the conventionalized notion of research, it can be asserted that their conceptions of research were less rigid at the end of the process. For example, the following excerpts show that some of them appreciated small-scale studies at the end of the process:

> ***E39:*** *"In the past, scientific research reminded me of large-scale studies. However, doing the project has changed my mind. It does not matter whether it is a large-scale or small-scale study." (ST1.I2)*
>
> ***E40:*** *"It is a kind of study that does not require a large number of people." (ST5.I2)*

To sum up, the following conclusions can be drawn from the data about the conceptions of scientific research:

(1) The STs associated research with scientific research before the application. In other words, when they thought of research, mostly, research that fulfills scientific criteria came to their mind, which means that they conceptualized research according to the characteristics associated with scientific research. Scientific research reminded them of statistics and numerical data They also underlined the need for a large number of people for reliability and generalizability.

(2) On the other hand, a less conventionalized notion of research emerged after the application. Most of the partipants started to appreciate small-scale studies at the end of the

process. The participants' conceptions of scientific research seemed to be still conventionalized but to a lesser extent since they started to see research as a more feasible concept.

4.1.3. Conceptions of Teacher Research

In order to understand the STs' conceptions of teacher research, they were asked to explain what came to their minds when they thought of teacher research. They mostly referred to the words "small-scale, local, trials-and-errors" while explaining it. They thought that within the scope of teacher research are "trying out different things, checking the impact of activities, observing the classroom, understanding students' needs, getting feedback, examining students' performance, consulting experienced teachers, comparing groups, and checking background knowledge." It seems that there are similarities between the definitions expressed by STs in this study and those described by Reis-Jorge (2007). For example, ST1 touched upon trying new techniques while she was talking about teacher research:

> ***E41:*** *"A teacher can try out new techniques and observe their effects on his students." (ST1.I1)*

ST1 was asked to exemplify teacher research during the first interview, and she stated the following sentence:

> ***E42:*** *"I will try out different techniques and understand whether they work or not by looking at students' reactions. It is also possible to get feedback from students." (ST1.I1)*

After getting the answer, she was asked whether she would call it research and she gave the following answer:

> ***E43:*** *"I think I would call it research because you collect data and think over it." (ST1.I1)*

The ST5 and ST4 also gave the followings answers when they were defining teacher research:

> ***E44:*** *"To do research in order to choose activities appropriate for students' level." (ST5.I1)*

E45: *"Collecting data in the classroom, trying out things, developing your own way, and moving through a problem." (ST4.I1)*

Some of them also compared it to scientific research while defining teacher research:

E46: *"Teacher research is like preparing something by considering students' needs. On the other hand, scientific research is more formal." (ST5.I1)*

E47: *"A teacher does not write academic papers, but she can try different methods in her class and in her own way."(ST16.I1)*

On the other hand, they mostly referred to a rigorous and systematic way of teacher research at the end of the process:

E48: *"At first, I thought that teacher research included asking some questions and getting the answers, but now I understand that it is necessary to follow some steps." (ST2.I2)*

E49: *"Teacher research is a process that includes data collection and analysis in order to improve teaching." (ST11.I2)*

These examples demonstrate that the STs gave a functional definition for teacher research at the beginning. They considered teacher research to try out new techniques in the classroom. It seems that they did not have a legitimate form of teacher research in their mind before the application. However, they mostly focused on systematicity after the application. This finding seems to be consistent with Reis-Jorge (2007).

The STs were not aware of teacher research at the beginning of the process. During the pre-interview, none of them stated that they heard it. Before the application, they thought that they would not need teacher research knowledge in order to do it because they had a tendency to consider it a part of routine teaching:

E50: *"Research knowledge is needed for scientific research, but for teacher research, if it is a small-scale one, it is unnecessary." (ST8.I1)*

E51: *"I can do teacher research in my class. It does not require any technical knowledge." (ST10.I1)*

E52: *"It is less likely that teacher research requires technical knowledge." (ST11.I1)*

E53: *"For such kind of small scale studies, field knowledge is enough." (ST16.I1)*

After the application, they thought that teacher research knowledge was crucial in order to conduct teacher research. In the first interview, ST7 stated that a teacher could do research

in his class in any case. In the post-interview, she underlined the importance of teacher research knowledge:

> ***E54:*** *"I have already thought that a teacher could conduct small scale studies in her class. To tell the truth, I was not sure about how to do it as I was not familiar with the process. At least, we learned how it proceeds. Research in my mind then and now are totally different." (ST7.I2)*

Similarly, in the pre-interview, ST14 and ST16 stated their ideas about the unnecessity of background knowledge for teacher research. In the post-interview, they highlighted the importance of theoretical knowledge:

> ***E55:*** *"If the teacher does not know the process, he can judge something that he does daily to be research. The teacher definitely needs to know the steps." (ST14.I2)*

> ***E56:*** *"I had not fully understood what teacher research was. I can imagine it in my mind now. I thought that a teacher would do it anyway, but it is not the case. It is not something that can be done without theoretical knowledge." (ST16.I2)*

Interestingly, some of the STs tended to see teacher research as scientific research. This result agrees with the findings of Çelik and Dikilitaş (2015), in which the participants considered teacher research as academic research. This could be due to the fact that the projects they completed followed a similar process with the scientific research they were already familiar with. However, these projects do not totally correspond to academic standards. Although the participants were reminded to view these projects as teacher research projects, they had the tendency to draw a comparison, as traced in the remarks below:

> ***E57:*** *"I made an inference as follows: Teacher research can be subsumed under scientific research. If I did my project at a larger scale, I could add it to the literature." (ST1.I2)*

> ***E58:*** *"I can draw an analogy like this: If scientific research is an umbrella, teacher research is also under that umbrella. It is definitely not something different." (ST6.I2)*

> ***E59:*** *"To me, teacher research is something like doing lots of jobs with fewer data. We also follow the same process in scientific research. They resemble in process aspect, but scientific research requires a large number of people." (ST6.I2)*

> ***E60:*** *"When I think of scientific research, what comes to my mind is similar to teacher research. I see no difference. We even did lots of things. We reviewed the literature. We developed a data collection tool, administered it to the students, and collected data. After that, we analyzed these data. Finally, we wrote a report and*

presented it. If one of them is a large-scale study and published in a notable journal, the other one is a small-scale one." (ST10.I2)

E61: *"Identifying a research question, collecting the data, and analyzing. They have a similar process. I guess I draw a parallel between them." (ST11.I2)*

In order to bring the findings to a close, the main points about the conceptions of teacher research can be summarized as follows:

(1) Before the STRM integration, the STs gave a functional definition for teacher research. They referred to small-scale studies and did not consider teacher research as a legitimate form. They also thought that within the scope of teacher research were trying out different things, checking the impact of activities, observing the classroom, understanding students' needs, getting feedback, examining students' performance, consulting experienced teachers, comparing groups and checking background knowledge and etc.

(2) At the end of the STRM integration, the participants described teacher research as a process that involved conventional and systematic data collection methods. Almost all of them gave a more sophisticated definition for teacher research, and they added systematicity and rigour. It can be said that at the end of the process, the STs appreciated teacher research as a systematic and rigorous way of research. This finding seems to be consistent with Reis-Jorge (2007). In his study, teacher research was also seen as an instrument to assess the efficiency of teaching methods and techniques against the learning outcomes at the beginning of the process. At the end of the course, the participants defined teacher research as a process that involved the systematic and conventional data collection process.

(3) Some STs labeled the research done by the teacher as scientific research during the process. Actually, the small-scale projects carried out by the student teachers did not totally correspond to academic standards. Although the participants were reminded to view these projects as teacher research projects, they had the tendency to draw a comparison. This finding corresponds to Çelik and Dikilitaş (2015). In their study, the participating teachers also considered teacher research as academic research after the integration of the teacher research course.

(3) The STs in this study stated that they had never heard about teacher research. In the first interview, the vast majority of the STs associated teacher research with activities that

could be seen as part of teaching and could be considered reflection. It seems that their awareness of teacher research was raised at the end of the process.

(4) While the STs tended to undervalue the importance of theoretical knowledge about teacher research at the beginning of the process, they emphasized theoretical knowledge and mentoring at the end of the process and stated that it was not possible to conduct proper research without this knowledge and support.

4.2. Attitudes Towards Research

The student teachers' attitudes towards both teacher research and scientific research are subsumed under four categories, which are cognitive attitudes, affective attitudes, self-efficacy, and intended behaviour for research. For the attitudes towards research, van der Linden et al.'s (2015) categorization and the relevant literature were considered. In this study, cognitive attitudes towards research include student teachers' perceived ease of research engagement, perceived knowledge in research, and perceived usefulness of research engagement. Perceived ease of research engagement refers to the degree to which an individual considers that research is easy to use. Perceived knowledge of research refers to an individual's self-assessment or feeling of knowing research. Perceived usefulness of research refers to the degree to which a person considers that research would enhance his performance. Affective attitudes towards research are feelings about and interest in research engagement. They are divided into two, which are positive and negative affective attitudes. Perceived self-efficacy in research refers to an individual's beliefs in his capabilities to do research. It is composed of self-satisfying and self-dissatisfying beliefs. Intended behaviour is a person's intention to use research in future practice. Intended behaviour is divided into intended and unintended behaviour.

4.2.1. Cognitive Attitudes towards Research

Cognitive attitudes are the thoughts and understanding of an individual about an object or action, and is focused on the overall assessment of the values of that individual. In this study, cognitive attitudes towards research include student teachers' perceived ease of research engagement, perceived knowledge in research, and usefulness of research engagement.

4.2.1.1. Perceived Ease of Research Engagement

The participants' perceptions about the ease of teacher research and scientific research were coded according to whether they find them hard or not, and any changes during the process were checked.

When it comes to the perceived ease of teacher research engagement before the STRM, there were a variety of perceptions. While some of the student teachers found it hard at the beginning of the process, some of them stated that it seemed to be easy. It could be due to the fact that the STs equated teacher research with routine teaching and their unacknowledged assumptions. Here are some excerpts by the STs who found it easy to conduct teacher research:

> ***E62:*** *"Teacher research is easier, but time is required to do it. It is not a good idea to come to a conclusion just by relying on daily experience." (ST2.I1)*
>
> ***E63:*** *"I think keeping student files is a kind of research. Such kind of research is easy, but if it is something to be generalized, then it is difficult." (ST12.I1)*
>
> ***E64:*** *"It is easier to do teacher research. In fact, while doing research, a teacher also does his job. This research can be integrated into teaching." (ST13.I1)*

The student teachers who stated that it is hard to do teacher research cited reasons such as lack of reliability, students' unwillingness to participate in their studies, lack of research knowledge. ST4's sentences can also be interpreted as discredit given to research conducted by a teacher. Some of their utterances are given below:

> ***E65:*** *"It is not easy for a teacher to do research. How reliable can a teacher's work alone be? The teacher's background knowledge may also be lacking."(ST4.I1)*
>
> ***E66:*** *"It is not easy. Students may not want to participate." (ST9.I1)*

At the end of the process, while some of them found it challenging, some thought that it was easy to carry out teacher research. Most of them compared it to scientific research and stated that they found conducting teacher research easier than scientific research. They also stated that this hands-on experience of teacher research enabled them to change their perspectives regarding research. Here are some excerpts:

> ***E67:*** *"First of all, as I always say, this study has changed my perspective on research, and I don't see it as difficult to do as before. When everything is planned, when you have a good research question and go step by step, I think it can be done easily. Of course, I don't claim that research is easy. It requires time and effort. But now, I can say that it is not as far as impossible." (ST14.R3)*

E68: *"I don't think that it is easy. It took a long process. Actually, I will have fewer difficulties in the next one."(ST3.I2)*

E69: *"I think it's pretty easy. It is easy if you know how to do it. Without your guidance, I wouldn't have done anything by myself. I would have great difficulties. Now, I know, more or less, how to do it as I had my first experience. I don't think it will be very difficult from now on." (ST4.I2)*

E70: *"It is easier than scientific research. We can see things more easily as we are in the classroom." (ST9.I2)*

The following excerpts exemplify the changes in their perceptions regarding the ease of research:

E71: *"In my opinion, all these steps seem challenging, but at the same time, it is a great opportunity for the teacher to improve the faulty and incomplete parts in students' minds. Thanks to this research, the teacher is able to detect the problems with the lesson or lack points of their own."(ST7.R1)*

E72: *"I do not think that it is impossible except for identifying the problem and developing a data collection tool. While carrying out my project, I thought that it was hardly easy to do, but it is definitely worth doing when you think about its contributions" (ST7.I2)*

E73: *"It wasn't as easy as I thought. Frankly, I did not expect it to be so complicated. I had some difficulties. However, I have something clearer in my mind now, as I've learned how to do it. I didn't know how to do, but it was more difficult than I thought." (ST13.I2)*

For some of the STs, research was neither easy nor hard at the end of the process.

E74: *"It is neither easy nor difficult. Time and effort are required." (ST2.I2)*

E75: *"I am moderately positive about teacher research. It should be done. It is easy to do, but it depends on the workload. We make the time for it, but it is likely that the teacher may not have time for it while doing his job. But I think it is necessary to make time for it. That's beside the point."(ST6.I2)*

E76: *"I think it is neither easy nor too difficult. It is necessary to do it by following certain steps. In terms of the process, it is not very easy, but for a teacher who has conducted research for five times in his class, it will be very easy to do the sixth one." (ST14.I2)*

The following excerpts show how the views of ST11 on the ease of teacher research have developed during the process. In the first interview, the participant found teacher research not easy but easier than scientific research. In her first reflection, she stated her beliefs about her lack of background knowledge in doing research. In the last interview, she stated

that she found teacher research as something that can be done. Some of her utterances about the ease of teacher research are given below:

> ***E77:*** *"Teacher research is not easy but easier than scientific research. Because the process is shorter and the teacher will not have any trouble in finding participants as he does it in his own classes." (S11. I1)*
>
> ***E78:*** *"It is going to be a new and, I believe, challenging experience for me. Even though teacher research seems a relatively simpler thing to me, I do not think that I have the basis to conduct research." (ST11.R1)*
>
> ***E79:*** *"This experience has changed my perspectives on research. I understood that it wasn't a very difficult process, and I could really do it and benefit from its results. I also learned how to do it. It seemed difficult at first, but while I was doing it, it wasn't that hard." (ST11.R5)*
>
> ***E80:*** *"At least, it is something that can be done. I thought that we would not be able to do it at first, but now I think it can be done. I don't think that it is as hard as before." (ST11.I2)*

During the post-interview she also added the following comments:

> ***E81:*** *"It is not necessary for a teacher to do scientific research. Teacher research and scientific research have similar processes, but I think teacher research is relatively easier. For this reason, it may be more appropriate for a teacher to do teacher research." (ST11.I2)*

When it comes to the ease of scientific research, all of the STs found it hard to do scientific research at the beginning of the process. The reasons they gave were "reading a lot, collecting data, reliability, presenting it, lack of background knowledge, critical thinking, literature review, getting approval, studying hard and commitment."

> ***E82:*** *"It is definitely not easy. It is a very long process. It takes time even to find a topic. Collecting data, doing analysis. It is necessary to have time for it." (ST2.I1)*
>
> ***E83:*** *"It is even hard to analyze it. It is harder to do it because of the workload and time. You have to come up with an end-product." (ST3.I1)*
>
> ***E84:*** *"It is hard. We had scientific methods course, but we couldn't learn how to do it. It is hard to write an article. You have to be objective, follow some steps, and base your arguments on some evidence." (ST9.I1)*
>
> ***E85:*** *"It is not easy. What makes it difficult is to access to participants, get consent, and collect reliable data." (ST15.I1)*

At the end of the process, the participants again thought that scientific research was hard. Although ST1 found it hard, she also expressed positive things about scientific research.

The following excerpts illustrate the participants' perceptions about the difficulty of scientific research after the process.

> ***E86:*** *"In fact, it is hard but fun. This fun side eliminates the hard side." (ST1.I2)*
>
> ***E87:*** *"It is definitely not easy. We followed a number of steps while doing our project. Scientific research must be harder. I think data analysis is the hardest part of it." (ST2.I2)*
>
> ***E88:*** *"Scientific research is not easy. What makes it difficult are the things we don't know. Teacher research was also difficult at first. I was really daunted by it. We went step by step. I know how to do it right now. Now it is not that difficult. The next term, we can do it better." (ST5.I2)*
>
> ***E89:*** *"It is definitely hard. You need to be good at it, love it, and be a hardworking person." (ST15.I2)*

In summary, these results seem to provide support for the following:

(1) It can be said that the perceived ease of research engagement may change in both directions. Most of the student teachers stated that teacher research was easy at the beginning of the process. The reason for this idea could be related to how they conceptualized teacher research. Most of them associated teacher research with routine and reflective tasks at the beginning of the process.

(2) After completing their projects, most of the STs stated that it was easy to do teacher research. Although some of them found it challenging, it seems that they considered their gains more than the challenges they had.

(3) Some of them also compared teacher research to scientific research and stated that they found the former more feasible.

(4) They found scientific research hard both at the beginning and end of the study. Nonetheless, they expressed positive remarks about it to some extent at the end of the process.

4.2.1.2. Perceived Knowledge in Research

According to the STs, their perceived knowledge of teacher research has developed throughout the project. All of the STs stated that they became knowledgeable at the end of

the process, which is not a surprising finding. They also stated that they were not aware of teacher research and did not know how to do it before the implementation.

The participants were asked to give responses to the prompt 'Rate your teacher research knowledge before and after the implementation on a scale from 1 to 10 with 1 being no knowledgeable and 10 being very knowledgeable'. They had a low degree of perceived knowledge with an average score of 2.8 before the implementation and had a high degree of perceived knowledge with an average score of 7.1 after the implementation (10 being the highest). The following excerpts present their perceptions about their teacher research knowledge:

> ***E90:*** *"I give 1 out of 10 for my previous teacher research knowledge because we did not get our scientific research class in this way. What we had learned during this process became permanent with the things we did. We've learned lots of things during this process. We could have allocated more time if we did not have KPSS. I am not sure whether we would get confused if we had learned more than this. I learned by doing. Even though I am not familiar with lots of research terms, I know what steps to follow now. My rating, for now, is 8." (ST14.I2)*
>
> ***E91:*** *"We have learned lots of things. We were like tabula rasa before the implementation. The course helped a lot, and we can use it for our future practice. It was really beneficial." (ST14.R4)*

ST14 stated that the hands-on experience of research enabled permanent learning for teacher research, and she thought that she improved her knowledge about teacher research a lot. She also underlined her lack of knowledge about research terminology. However, she acknowledged her familiarity with the research process. In her reflective journal, she also mentioned that she did not have background information about teacher research.

> ***E92:*** *"I know the process better. At least, I know a process that could lead me to a conclusion. In the past, it would end where I identified the problem." (ST4.I2)*

ST4 also stated that she gained knowledge to complete a research project, and she thought that she had enough knowledge about the research procedure.

> ***E93:*** *"I know what steps to follow if I want to conduct research on something that is related to my profession." (ST13.R3)*
>
> ***E94:*** *"I really found it useful. What we did was amateurish. I am not satisfied with what I did, but here is the good side: you can overcome your inexperience. I've learned what to do for the next one." (ST13.I2)*

Although ST13 was not satisfied with his performance, he valued that he gained experience in doing teacher research.

> ***E95:*** *"Since I did not know teacher research before and I could not see the benefits, I can say that I did not have this awareness, but now I saw how important this is. I am aware of this now, and I think it should become a normal procedure for someone who is a teacher. At least, teacher groups at schools can come together and discuss the results of research they conduct in their classes. It can be a very important advantage for collaboration." (ST6.I2)*

ST6 stated that this experience raised her awareness about the nature and benefits of teacher research. She underlined that conducting TR can be useful for cooperation among teachers.

When it comes to scientific research, all of them stated they did not have enough knowledge to carry out scientific research. They talked about their experiences in the scientific research course and stated that the course was limited to analyzing some articles. They also stated that what they learned was not permanent because of the lack of hands-on experience.

> ***E96:*** *"We had scientific research class in our second year, but I did not think that it was useful. This application helped me to understand that research was something useful." (ST3.I2)*

> ***E97:*** *"We read and analysed articles when we had our scientific research class. I did not like reading those articles. This time we had a chance to do something practical. We collected data, and I learned the skeleton of a research study. During that time, I did not even notice it." (ST1.I2)*

> ***E98:*** *"After this experience, I noticed that the scientific research did not help me to visualize the things in my mind, and my learning was not permanent. The lesson was good, but it was based on rote-learning. We were just memorizing the things, but now I feel that I know the process better." (ST16.I2)*

These findings can be summarized as follows:

(1) The STs believed that they improved their teacher research knowledge during the process. They also underlined that their awareness of teacher research was raised thanks to this application.

(2) They also underlined how hands-on experience helped them to make their learning permanent. Although they had a scientific research class in the past, they criticized the lack of practice in that course.

(3) Some of the STs did not have confidence in their scientific research knowledge, although most of them had confidence in teacher research knowledge at the beginning of the process as they equated teacher research with reflective teaching.

4.2.1.3. Perceived Usefulness of Research

All of the participants found it useful to engage with teacher research. For example, ST6 acknowledged the benefits and offered to make it a part of teaching:

> ***E99:*** *"Since I did not know teacher research before and I could not see the benefits, I can say that I did not have this awareness, but now I saw how important this is. I am aware of this now, and I think it should become a normal procedure for someone who is a teacher. At least, teacher groups at schools can come together and discuss the results of research they conduct in their classes. It can be a very important advantage for collaboration." (ST6.I2)*

ST3 expressed her dissatisfaction with the scientific research class she had when they were sophomores. She underlined the role of teacher research experience in changing her mind about research:

> ***E100:*** *"We had scientific research class in our second year, but I did not think that it was useful. This application helped me to understand that research was something useful."(ST3.I2)*
>
> ***E101:*** *"I understood that it was really useful. I listened to my friends' presentations very carefully because they really attracted my attention. They were really good. Even our teacher educators stated that he drew lessons for himself. It was really good to see such kind of samples before starting the job." (ST14.I2)*

To sum up, when it comes to the perceived usefulness of teacher research, the following conclusions can be drawn:

(1) The hands-on experience of student teacher research was considered to be useful by all of the participants.

(2) They also stated that this experience enabled them to change their minds about what counts as research.

4.2.2. Affective Attitudes towards Research

Affective attitude is an emotional reaction that reflects the level of preference the individual has for an object or behaviour. To put it another way, it is the feelings that a person has towards an object or behaviour. When it comes to their affective attitudes, it was found that their interest in and positive feelings about teacher research developed.

They stated that they developed positive affective attitudes towards research and that they would definitely do teacher research in their future practice. It can be said that these positive attitudes are closely related to their intention to use teacher research in their future practice, as can be deduced from the following statements:

> ***E102:*** *"Of course, I am interested in reading it, and I will do it in the future. As I learned the system of teacher research, I will do it with self-confidence from now on." (ST2.I2)*
>
> ***E103:*** *"I guess we all have the same feelings. We felt like we were doing an important job. Students were also interested in what we did, so I felt better. It has also increased my interest from now on." (ST3.I2)*
>
> ***E104:*** *"It was not something interesting for me at first. I thought that it would be very comprehensive. However, after we entered the process, I really liked it." (ST3.I2)*
>
> ***E105:*** *"Now, it is interesting for me because I achieved satisfaction, and I know what it is like." (ST4.I2)*
>
> ***E106:*** *"It is interesting to me, and I will definitely conduct teacher research. What makes me think so is my friends' presentations. I was really surprised by some of them. Some of them were not surprising. We can understand students' needs with the help of teacher research. For this reason, I think it is very beneficial. You can get sound evidence, thanks to it." (ST11.I2)*
>
> ***E107:*** *"I understood that it was really useful. I listened to my friends' presentations very carefully because they really attracted my attention. They were really good. Even our teacher educator stated that he drew lessons for himself. It was really good to see such kind of samples before starting the job." (ST14.I2)*

ST15 also stated that teacher research was something interesting for her at the end of the process, and it seems that she valued the dissemination a lot. She also pointed out her concern about finding a context where she could disseminate her research projects.

> ***E108:*** *"In the future, I would be interested in it, but I don't know how. Suppose that I do research and will present it. I presented it to you now, but I will not find an audience in the future. Yes, I can organize my teaching based on the findings, but if I*

don't make it public, I will feel that I get nothing. We studied hard, and it was good to have an output at the end of the process." (ST15.I2)

On the other hand, the STs reported their negative attitudes towards scientific research. These negative feelings seem to be related to their scientific research course.

E109: *"I have some bias for scientific research because I could not learn how to do it." (ST4.I1)*

E110: *"Scientific research attracted my interest at first, but the scientific research class affected my motivation negatively." (ST5.I1)*

E111: *"I don't like scientific research. The lesson we had led to some negative feelings. It was hard for us. Actually, I don't feel that I learned something. Dependent, independent variable. Mostly theoretical knowledge. We analysed some articles. I would rather learn more practical knowledge that we could use." (ST9.I1)*

ST9's remarks about scientific research class are interesting. She criticized the lack of practice in scientific research class and underlined the importance of gaining practical skills in research. In the literature, it is also stated that a person acquiring theoretical knowledge by taking only a research methods course or reading research methods books will not turn him into a researcher (Reis-Jorge, 2005). The STs who participated in the research thought that the theoretical knowledge acquired from the scientific research methods course was not sufficient. The students stated that they examined the articles within the scope of this course, and the course was not very useful. Some students even stated that they developed negative attitudes towards research after the scientific research methods course.

In short, the findings can be summarized as follows:

(1) The STs stated that they had very positive feelings about teacher research after their teacher research experience.

(2) Most of the STs said that there were significant changes in their conceptions of research throughout and at the end of the process. For some STs who said that they considered research to be frightening and tiring, the research has become more accessible and entertaining.

4.2.3. Perceived Self-efficacy in Research

Perceived self-efficacy refers to an individual's beliefs in his capabilities to do research. It is composed of self-satisfying and self-dissatisfying beliefs. Most of the STs already had self-satisfying beliefs about their ability to conduct teacher research at the beginning of the process. When we look at their cognitive attitudes, the STs stated that they found teacher research relatively easier and feasible than scientific research after the application. After the application, they said that they obtained the theoretical and practical information in order to carry out teacher research. They also stated that they gained self-efficacy in conducting teacher research. This confidence could be related to their perceived knowledge and positive experience.

While a few STs had self-dissatisfying beliefs about doing teacher research, most of them held self-satisfying beliefs regarding it. As some of the participants' conceptions of research implied that they judged reflective teaching activities as research, it is not surprising for them to think that they could do teacher research at the beginning of the process.

The following excerpts exemplify self-dissatisfying beliefs about teacher research:

> ***E112:*** *"Now, I don't have enough knowledge to do teacher research in my class. It is necessary to have some experience." (ST3.I1)*
>
> ***E113:*** *"I can't do teacher research in my class. I need to revise the steps. I am methodologically weak." (ST1.I1)*

Here are some excerpts for self-satisfying beliefs. The excerpts also indicate that they had self-dissatisfying beliefs about scientific research.

> ***E114:*** *"I can do classroom research. I can get feedback from the students, but I can't imagine being able to do the other." (ST7.I1)*
>
> ***E115:*** *"I can do teacher research, but I don't have enough background knowledge to do scientific research." (ST11.I1)*

At the end of the process, ST15 confessed that her reported self-efficacy at the beginning of the process was unrealistic:

> ***E116:*** *"Yes, I stated that I could do teacher research at that time, but it was on shaky ground. I thought that it was a simple thing. Yes, it is a small thing when compared to scientific research, but it is demanding. It requires effort and background knowledge. You need to have a good relationship with students. You have to put a lot*

of effort into it. It is even important to have good ICT skills. If you don't know the basic things, you will have difficulties." (ST15.I2)

ST6 states that her self-efficacy about doing research has changed during the process. She did not feel knowledgeable about research methodology before the implementation.

E117: *"I can do scientific research. I didn't trust myself before because I thought that I had no knowledge of research methodology." (ST6.I2)*

ST5's statement is also interesting. It seems that her success and positive experience in teacher research made her think that she could also have a good performance in scientific research. In her final reflection, she also mentioned her gaining self-confidence in doing research.

E118: *"As I could do teacher research, I guess I can also do scientific research by following some steps." (ST5.I2)*

E119: *"At first, I was startled, and I overestimated research because I didn't know how to do it. Now I'm not afraid of the teacher research thing. It is a great benefit for us to do this. Suppose that I want to do research after becoming a teacher. I could have an idea by reading about it, but not experiencing it before would be a disadvantage for me. I went through all the steps during this application. This experience gave me self-confidence, and I will probably do it in the future. "(ST5.I2)*

E120: *"Normally, I would be too lazy to do research if I was a teacher. I would have trouble learning how to do it. But now, I know how to do teacher research. If I want to research something about my students, I can do it very comfortably. This gave me confidence, I say." (ST5.R5)*

The following excerpts exemplify the participants' self-dissatisfying beliefs regarding scientific research:

E121: *"I can't trust myself in large-scale research, but I am OK with the research I could do in my classroom." (ST4.I2)*

E122: *"I don't think that we are efficacious enough to do scientific research. Yes, we have some efficiency but not enough to conduct scientific research." (ST15.I2)*

To sum up, the participants gained new insights about learning and teaching, their attitudes and practices changed, and there was also an improvement in their self-efficacy. So, it seems that this study produced results which corroborate the findings of a great deal of the previous work such as Bloomfield et al. (2004), Blumenreich and Falk (2006), Görsev Boran (2018), van der Linden et al. (2015), Wyatt and Dikilitaş (2016). Self-satisfying

beliefs regarding teacher research after the process could be attributed to their conceptions of teacher research and perceived ease.

4.2.4. Intended-behaviour for Research Engagement

Some STs had already stated that they had the intention to engage in research in their future practice at the beginning of the process. However, the following excerpts show that their understanding of teacher research was limited to reflective teaching activities, as above-mentioned.

> ***E123:*** *"When I become a teacher, I can make observations in my class. I'll try to find activities that may be of interest to students and observe them." (ST16.I1)*
>
> ***E124:*** *"I would like to do research in my class when I am a teacher. We have learned a number of different techniques, and I want to try them out." (ST1.I1)*

There were also a few students who did not plan to conduct research in their future classes. In the following excerpts, ST5 stated that her lack of knowledge would impede her from doing research in her classroom.

> ***E125:*** *"I am not planning to do research in my future practice because I don't have the requisite knowledge to do it." (ST5.I1)*

Most of the participants stated that they developed positive attitudes towards research and that they would definitely do teacher research in their future practice.

The most striking result to emerge from the data is ST6's intention to take initiatives about doing teacher research in the future. She stated that she would organize teacher research days and encourage a community of teacher research in her school.

> ***E126:*** *"I would like to have a teacher research presentation day every month in my future school, and I want at least a few teachers to present the research they carried out at those meetings. I will try to make this happen where I'll work. Because to me, this is something that has the power to destroy the dogma and to decrease the teacher dogma to zero. This is a really important resource for teachers." (ST6.R5)*
>
> ***E127:*** *"Since I did not know teacher research before and I could not see the benefits, I can say that I did not have this awareness, but now I saw how important it is. I am aware of this now, and I think it should become a normal procedure for someone who is a teacher. At least, teacher groups at schools can come together and discuss the results of the research they conduct in their classes. It can be a very important advantage for collaboration." (ST6.I2)*

The following excerpts also summarize the STs' intention to use teacher research in their future practice. ST14 appreciated the role of using teacher research to learn more about students. Although ST7 found teacher research challenging, she was determined to use it in the future. ST11 emphasized the importance of teacher research in gathering sound evidence for teaching practice.

> ***E128:*** *"Definitely, I am planning to use it in my future class because the lessons that we have by considering students' perspectives will be more effective." (ST14.R3)*
>
> ***E129:*** *"Even though it is a challenging process, it can't stop me. I will definitely use it." (ST7.I2)*
>
> ***E130:*** *"It is interesting to me, and I will definitely conduct teacher research. What makes me think so is my friends' presentations. I was really surprised by some of them. Some of them were not surprising. We can understand students' needs with the help of teacher research. For this reason, I think it is very beneficial. You can get sound evidence thanks to it." (ST11.I2)*

ST1 stated that she was not likely to do research in her future practice. ST15 was also worried about not being able to find a platform to share teacher research studies in the future.

> ***E131:*** *"I feel as if I am naive. For this reason, I guess I will not remember to engage in research because of the other things to do. There is a long process." (ST1.I2)*
>
> ***E132:*** *"In the future, I would be interested in it, but I don't know how. Suppose that I do research and will present it. I presented it to you now, but I will not find an audience in the future. Yes, I can organize my teaching based on the findings, but if I don't make it public, I will feel that I get nothing. We studied hard, and it was good to have an output at the end of the process." (ST15.I2)*

To summarize, the data indicate the following results:

(1) The module motivated the participants to do their own research in their future practice. Almost all of the participants stated that they had the intention to continue their research activities when they start to work. This finding corresponds with Al-Maamari et al. (2017), which found that the research-support program motivated the teachers to do their own research.

(2) Although some of them found teacher research challenging, they stated their intention to use teacher research in their future practice. It can be suggested that the positive cognitive and affective attitudes they developed during the process increased their intention to use teacher research in the future.

(3) While research was something intimidating and hard for most of the student teachers at the beginning of the process, it turned into a feasible and useful thing thanks to their awareness about teacher research at the end.

4.3. Perspectives about the STRM Integration

The third research question tried to explore the student teachers' perceptions about the integration of a Student Teacher Research Module (STRM) as a component of practicum in an SLTE program.

4.3.1. Initial Reactions to Student Teacher Research

After the first session, the procedure was introduced to the participants, and they were asked to reflect on whether the idea of conducting small-scale teacher research in practicum worried or excited them by giving their reasons. Their reflections from the Reflective Journal Assignment 1 (See Appendix 3) show that some student teachers had positive, some of them had negative, and some of them had both positive and negative reactions about doing a student teacher research project at the beginning of the process. Table 7 shows the STs in each category. Table 8 presents the categorization of reasons for initial reactions to student teacher research at the beginning of the process. It can be understood from Table 8 that the most commonly cited reasons for negative reactions were attitudes towards research.

Table 7

Student Teachers' Initial Reactions to Student Teacher Research

Positive	ST1, ST2, ST6, ST8, ST10, ST14
Negative	ST4, ST11, ST12, ST15, ST16
Positive and Negative	ST3, ST5, ST7, ST9, ST13

Table 8

Reasons for Initial Reactions to Student Teacher Research

Reasons			f
Motivators	Sources	Personality	1
	Outcomes	Professional	8
		Personal	2
Stressors	Research relevant	Lack of research experience	3
		Attitudes towards research	7
	Research irrelevant	Timing	2
		Practicum anxiety	4

4.3.1.1. Positive Reactions

Some STs embraced the student teacher research project, and they explained the reasons based on different reasons. The reasons they gave were considered as a motivator. The following excerpt exemplifies personality as a motivator:

> ***E133:*** *"The idea of conducting small-scale teacher research in practicum excites me because I love seeing reactions of people towards anything, whatever it is. Even in my daily life, I generally observe people and try to figure out their emotions, reactions, excitements. That's why I believe that I can do this research and I am very enthusiastic about it." (ST2.R1)*

For most of the STs who had positive beliefs about the upcoming project, outcomes were seen as a motivator. They thought that these projects would bring personal and professional skills to them. The following excerpts exemplify personal and professional outcomes as a motivator:

> ***E134:*** *"The idea of conducting small-scale teacher research in practicum excites me because as I read articles, I see that writing an article is not that difficult. If I read and search more, I will feel more confident, and I can write lots of articles. Doing this research makes me feel like I am an academician. Lastly, I think that doing a research and writing an article will improve both my vocabulary and my writing skills." (ST1.R1)*

ST1 thought that this experience would help her gain confidence in research. She also thought that this process would contribute to her academic language.

> ***E135:*** *"The idea of conducting small-scale teacher research in practicum excites me because starting a new study, and doing my best for myself and students in this study, learning the research, and also knowing my field well while doing research, these are all precious processes for me. As I read the research and as time goes by, I realized that I am now reading it for myself and thinking critically to set a goal or topic for my research. After the processes are ascertained by the student-teachers, the research articles just fly by." (ST6.R1)*

ST6 also valued the role of teacher research for her future practice.

> ***E136:*** *"The idea of conducting small-scale teacher research in practicum excites me because it feels like we, the teachers, are treasure hunters and search for a secret temple. Even if it's tiring, disappointing, long shot, the treasure also teaches you many things. In this journey, you will get professional at time-management, evaluation, analysis and synthesis skills, teacher, and student relationships." (ST8.R1)*

ST8 resembled this experience to treasure hunting. He believed that he would gain professional skills thanks to this experience.

> ***E137:*** *"The idea of conducting small-scale teacher research in practicum excites me because doing nothing but watching how not to teach English in the practicum school bores me to death. It is great to be the use of something this way. In my junior year, I learned a fair amount in Scientific Research Methods course and I will be pleased to use what I learned while carrying out a teacher research. Also, since I am planning to do Master's and PhD, doing TR will give me at least an idea about how things work out. It will, also, help me be a teacher our precious students deserve If I ever end up working for the ministry of education." (ST10.R1)*

ST10 also appreciated teacher research project as she wanted to have a graduate degree in the future. She was also happy about taking an active role in the practicum thanks to this experience.

> ***E138:*** *"Finally, the idea of conducting a small-scale teacher research in practicum excites me because I really wonder about conclusion and I can implement this conclusion into my own teaching. However, I want to have more free time for this research." (ST14.R1)*

ST14 also valued the possible positive impact of this experience for her future career.

4.3.1.2. Negative Reactions

Some STs were worried about the student teacher research projects and they explained the reasons based on different reasons. The reasons they gave were considered as stressors. These stressors were either research relevant or research irrelevant.

ST4 and ST11 expressed their concerns about practicum and thought that these projects would put an extra burden on them.

> ***E139:*** *"Because I am even nervous about the practicum itself and trying to getting data from those students makes me much more nervous about it." (ST4.R1)*

> ***E140:*** *"Practicum is not familiar for me as a matter of course, so collecting the data seems to cause problems, at least I believe it will not be easy. Other than that, analyzing the data is a complex part of this process. All in all, I do not really think that conducting research in the practicum will be easy so it worries me a lot." (ST11.R1)*

For some of them, the timing was a problem.

> ***E141:*** *"The idea of conducting small-scale teacher research in practicum worries me because I may not have enough time to focus on this research since I have various other responsibilities." (ST16.R1)*

Some of them were afraid of having undesired outcomes at the end of the process.

> ***E142:*** *"The idea of conducting small-scale teacher research in practicum worries me because if my topic of research fails to yield valuable data, all the time I have given to the project will be wasted." (ST12.R1)*

> ***E143:*** *"The idea of conducting small-scale teacher research in practicum worries me because (1) I do not have enough experience to conduct research. (2) I have a concern that the students will ignore me and give me answers which do not reflect their own idea. (3) Time is also a problem. (4) The teacher may not allow us to conduct research." (ST15.R1)*

4.3.1.3. Both Positive and Negative Reactions

For some student teachers, the idea of conducting a student-teacher research project was both exciting and worrying.

ST5 was worried because of the lack of her research experience. However, she appreciated the positive outcomes of this experience for her future practice.

E144: *"The idea of conducting a small scale teacher research in practicum worries me because I have never done this before, and I do not know the steps that are followed, how much time it takes. Moreover, it excites me because it will bring me so many skills in teaching." (ST5.R1)*

ST3 was worried about managing the process as she was not familiar with it. She also thought that this experience would be useful about learning how to teach.

E145: *"The idea of conducting small-scale teacher research in practicum both excites and worries me at the same time. First of all, I always wonder how language learning take place does and I have lots of question in my mind. Thanks to the teacher research, I have a chance to find answers at least one of these questions. The idea of observing the class, analyzing the data, finding answers my questions makes me really excited. On the other hand, I have some doubts about how can I manage this process. However, I believe that after I choose my focus area and start doing my search, everything will be fine. This will be my first experience and it will give me an idea about how to teach in my class in the future." (ST3.R1)*

E146: *"All in all, at first, it seems a bit intimidating when I think about the teacher research, but now I am sure that this will be beneficial for my future goals. Also, I believe that one should stay up to date if s/he wants to be a qualified teacher." (ST7.R1)*

It can be understood from the following excerpts that the STs' general attitudes towards research impeded them having the willingness to do research.

E147: *"First of all, I want to say that this area is something that I find so demanding and challenging, so I feel so nervous, and I cannot stop feeling like this because I am not familiar with this idea. I do not have any experience about how to conduct a research; therefore, I feel so nervous. However, this does not mean that I am not going to do my best while working on it. I promise that I will try to do my best. Also, I want to add that the lessons we have about this area started to make me feel more informed and confident about conducting a research."(ST9.R1)*

E148: *"The idea of conducting a small-scale teacher research in practicum Excites me because: (1) It provides new opportunities for experimenting, trying and demonstrating new and improved ways for my job. (2) Since I was already eager to evaluate my performance in the field with actual students it provides me a handful of toolkits. Worries me because: (1) The amount of experience in the field required to notice a 'nuance' for a research is a thing to consider. A young and inexperienced teacher cannot just jump onto a research without thoroughly test the skills he has at the moment. (2) The results can be deceptive and there might be many difficult-to-notice reasons behind this. For example; the scale can be small for a proper research or the teacher's point of view can be 'contaminated' with bias due to some*

personal issues. Too much error can mix into the results and sources might be difficult to detect." (ST13.R1)

To sum up, the findings regarding the STs' initial reaction to the STRM are as follows:

(1) While some of the STs were excited about doing a student teacher research study, some of them were worried at the beginning of the process.

(2) The STs expressed reasons for their excitement or concern about doing a student teacher research project during the practicum, and these reasons were categorized as motivators and stressors correspondingly. The motivators were related to personal interest in research or expectancy about the outcomes. The STs believed that this project would contribute to them personally and professionally. The stressors were categorized as research-relevant and research-irrelevant. While the former included mostly student teachers' attitudes towards research and lack of research experience, the latter included practicum anxiety and timing. It can be suggested that attitudes towards research have a significant role for willingness to do teacher research. When the research-irrelevant stressors are considered, it can be suggested that mentoring and feasibility of teacher research may help them overcome their anxiety during the process.

4.3.2. Emerging Reactions to Student Teacher Research

Student teachers' reactions to the STRM during and after the process were mostly positive. Although some of them found it challenging, it seems that they really appreciated what they did during this process.

The STs were asked to give their perceptions of the ease of the STRM. Some of the STs considered the integration of student teacher research module difficult. Although they found it challenging, they also valued it, as can be deduced from the following statemens:

E149: *"It does not seem like a burden to me to do this in practicum. It is difficult, not that easy, but it did not feel like a huge burden. We are just observing the classroom now. It's going well." (ST1.R3)*

E150: *"I don't think it's easy. It requires endeavour and effort. It is also necessary to spend some time on it. It takes time. So it is not an easy application, but it is nice if it is done with genuine motivation and followed by success." (ST3.I2)*

E151: *"While carrying out the project, I thought that it was hardly easy to do, but it is definitely worth doing when you think about its contributions. " (ST7.I2)*

E152: *"It wasn't as easy as I thought. Frankly, I did not expect it to be that complicated. I had a hard time. I have something clearer in my mind now because I've learned how to do it. I didn't know how to do it. But it was more difficult than I thought." (ST13.I2)*

For some of them, it was easy to carry out student teacher research projects.

E153: *"I am happy that we go step by step. So the process seems easy to me. I mentioned that I liked the scientific research lesson before. I am happy to do one-on-one research with this application. I don't know if I could do more sophisticated research, but it seems very simple to me now." (ST10.R3)*

E154: *"Scientific research could be hard if it requires a long process. However, a small-project like ours is easy to do." (ST4.I2)*

When it comes to their feelings, the STs were very positive about carrying out student teacher research at the end of the process. Although some STs initially expressed a degree of apprehension before they embarked on their research projects, they made highly positive remarks during and at the end of the process. The participants reported that the module affected their confidence in the classroom, particularly to try out new ideas, and it often gave them greater insight into students' learning.

E155: *"I enjoy every step we take about this research. I hope to use them in my professional life in the future." (ST2.R3)*

E156: *"It is likely that I would not have such an opportunity again. It is absolutely useful. I am investing in myself. I'll reap the fruits of it in my future practice. This is a very nice experience." (ST6.R3)*

E157: *"The application is very good, but I am overwhelmed enough to go into rebellion during the process because there is a problem in terms of time in the final year. However, it gives a feeling of happiness as it proceeds." (ST14.R3)*

Having a teacher research conference at the end of the process were very welcomed by STs. The participants were asked to reflect on their feelings about the conference. Here are some reflections stated after the conference.

E158: *"Especially the presentation we gave today impressed me. Since research seems to me to be a big and troublesome job - still so - but at least I know a little bit more now. I know the process, and since this is the first thing to improve my perspective towards research, I'll always reminisce about it." (ST14.R5)*

E159: *"I felt nervousness and excitement at the same time. It's exciting to fit in 10 minutes. We have shown teaching skills with what we have done so far. This was*

different. We liked it. We felt like we were doing a good and successful job." (ST3.R5)

E160: *"We were very excited during and after the presentation." (ST1.R5)*

E161: *"Actually, I didn't realize that it was important to do student teacher research before the presentation. When I saw the interest of others in my study on the presentation day, I felt like I had created a very important product. I can say that their interest motivated me for this kind of research." (ST7.R5)*

E162: *"In the future, I'll definitely take a reference from our research. Because it is in an academic environment, and sharing made me feel that this process is very valuable. " (ST7.R5)*

E163: *"We should choose a data collection tool that will help us find an answer to our research question. We did this with your help when I got involved, and I am happy about this subject. When things are compatible with each other, things seem to be resolved by themselves." (ST5.R3)*

E164: *"I think it was nice. Normally, we do general observation in practicum. The implementation made a difference. It was much more enjoyable." (ST2.I2)*

E165: *"I was very excited, but I wish I could do something better. You said very good things, but I was not fully satisfied. It is great fun. We made a presentation. We got feedback. It is such a beautiful thing. I wish we had more time." (ST9.R5)*

E166: *"A little more seriousness. Yes, we do it, but the only person who sees it will not be just R teacher. This is a kind of reinforcement. You are doing it more seriously because others will see it." (ST6.I2)*

The obligation of presenting the research project in a conference motivated her to treat the project more seriously. ST6 also stated the following about her friends' presentations:

E167: *"I noted a few of them. I am happy that we made a good fist of it." (ST6.I2)*

Some of the STs expressed negative feelings about it.

E168: *"I worked with low motivation because it was a very amateurish job. You are doing something that you have not done before. You do not know enough about what you are doing, and by trying, you learn rashly. You are trying because you are in the learning stage." (ST13.I2)*

To summarize, the results related to the STs' perspectives during and at the end of the process are as follows:

(1) Almost all of the STs were quite positive about carrying out student teacher research at the end of the process. Although some STs initially expressed a degree of apprehension

before they embarked on their research projects, they made highly positive remarks during and at the end of the process.

(2) The participants reported that the module affected their confidence in the classroom, particularly to try out new ideas, and it often gave them greater insight into students' learning.

(3) The STs had different ideas about the ease of the STRM. Although some of them found it challenging to do student teacher research during practicum, they also appreciated the process and the outcomes of the projects they carried out.

4.3.3. Perceived Benefits of the STRM

The STs' perceptions about the contributions of the application are presented under two headings. The participants stated that the application contributed to their personal and professional skills.

The personal skills mentioned by the STs are inquiry skills, critical stance, and objectivity. ST11 and ST13 stated that this experience helped them to develop their personal inquiry skills.

> ***E169:*** *"For me, the most important contribution is that it helped me question things. The purpose of research is to ask and question things, but I could not even do this. It improved me in that the most. Actually both in my field and in general. It caused me to question things more." (ST11.I2)*

> ***E170:*** *"I think this practice improved my ability to ask questions." (ST13.I2)*

ST2 stated that she gained a critical stance thanks to this experience.

> ***E171:*** *"This application improved my horizon in teaching English. I can now look critically at most topics, and I think that the student's thoughts affect the lesson in anyway." (ST2.R5)*

ST8 stated that this experience helped him gain objectivity. He also mentioned that he gained the ability to base his arguments on some evidence. A similar remark was also stated by ST2.

> ***E172:*** *"I think I have a more objective perspective." (ST8.I2)*

E173: *"Speaking according to scientific data, as well as asking questions. This was a skill I did not know. I can say that I got the ability to speak with scientific data." (ST8.I2)*

E174: *"Thanks to this practice within the scope of practicum, I think that I can observe the students better in my professional life, collect and analyze data better. What I feel or see will be based on the data. So I hope I can be more objective." (ST2.R3)*

Almost all of the students think that this small-scale research experience contributed to their professional skills. Some student teachers thought that this experience would make their future practice more effective.

E175: *"I think I will be a more effective teacher if I think about the future." (ST3.I2)*

E176: *"I would never have such an opportunity. Absolutely useful. I add something to myself. Most of the time, I will reap the fruits of it when I teach. This is a very good experience." (ST6.R3)*

E177: *"Thanks to this process, I saw that research was not that difficult and that I could do research in the future and evaluate and improve my lessons according to students' wishes and needs." (ST11.R4)*

After the application, ST2 and ST8 stated that learned how not to rely on their assumptions.

E178: *"Our assumptions or standard ideas might be different from what students think. In order to reveal them, it is important to do teacher research." (ST2.R5)*

E179: *"Instead of relying on our assumptions, we can do research. Because we should know our students' needs and shape our teaching accordingly." (ST8.R5)*

They also stated that this course would help them with a graduate degree.

E180: *"We had the chance to see the research process. We did the things that are carried out by MA students. I feel that it was an introduction to a Master's degree." (ST8.I2)*

E181: *"From my standpoint, characterizing the research activities in this course as an introduction to graduate studies would not be eccentric." (ST12.R3)*

E182: *"What I learned in this course will help me a lot if I pursue an MA degree." (ST1.R4)*

Above all, they also mentioned how this experience incited their motivation to do research and raised their awareness of doing teacher research. They also expressed the change in their research conceptions thanks to this experience.

E183: *"Without this application, doing research would be further from my mind. I would just rely on my observations. Then I would just rely on my own perspective. I would be like any teacher." (ST8.I2)*

E184: *"This process changed the conception of complicated research in my mind. I learned that I could do small-scale studies." (ST11.R3)*

E185: *"First of all, as I always say, this study has changed my perspective on research, and I don't see it as difficult to do as before. When everything is planned, when you have a good research question and go step by step, I think it can be done easily. Of course, I don't claim that research is easy. It requires time and effort. But now, I can say that it is not as far as impossible." (ST14.R3)*

E186: *"This experience has changed my perspectives on research. I understood that it wasn't a very difficult process, and I could really do it and benefit from its results. I also learned how to do it. It seemed difficult at first, but while I was doing it, it wasn't that hard." (ST11.R5)*

To sum up, the STs stated that this integration contributed to them both personally and professionally. In terms of personal contributions, developing inquiry skills, critical stance and objectivity were stated by the STs. When it comes to professional contributions, more effective future practice, motivation for and success in graduate degree, and changes in research conceptions are among the benefits the STs stated.

4.3.4. Challenges of the STRM

The challenges they had were categorized under two headings, which are module relevant and module irrelevant. The former includes difficulties in each stage of the module, and the latter is related to the other challenges they had.

In the planning stage, the most commonly stated problem was the literature review. They also stated that they had difficulties in narrowing down the topic. In the implementing stage, they stated that it was hard to understand the correspondence between research questions and data collection tools. Identifying the irrelevant items and lack of a ready-made tool was also the problems stated. While collecting the data, as it was not their own context, they had difficulties. Some of them also stated that they had to conduct an interview in an inappropriate context.

The STs were asked to identify the biggest challenge for them during the whole process. ST8, ST11, ST7, ST12, ST15 stated that they had difficulties with data analysis. For ST14, a literature review was the hardest.

> ***E187:*** *"Literature review. As I had not read articles, I did not know how to access them. It was also difficult to choose the most relevant ones."(ST14.I2)*
>
> ***E188:*** *"I can say that the stage of this research study that puzzled and scared me the most was the analysis part. I think that I had difficulty in this because I had no such experience and idea before. It was a bit of a challenge to express students' opinions without changing their answers to the interview. I was not sure whether the results would be affected if I change any word. Analyzing the questionnaire data was somewhat time-consuming, and it was hard to put them under one heading. We first divided the questionnaire into positive and negative items. Then we arranged the items to be suitable for four main titles. Actually, I did not understand the benefit of this at first, but I understood the logic of analyzing the results by gathering them under the main title."(ST7.R4)*
>
> ***E189:*** *"I thought that the data collection process was a very demanding and difficult process at first. Then, as I started to get the data, I was more motivated by the shaping of the research." (ST7.R4)*
>
> ***E190:*** *"I was anxious at first. This anxiety had diminished in the process until it was the final part. We had all the data at hand. I did not know what to do with them. Actually, some anxiety started in that part. What information should we put? Should we interpret it like this? We did something, but frankly, we were concerned about how accurate it would be." (ST3. I2)*
>
> ***E191:*** *"The thing that challenged me the most was to discuss the results and interpret the findings. I guess, in order to do this, it is necessary to know the literature very well." (ST1.I2)*
>
> ***E192:*** *"I had difficulties with duration. It was not hard to prepare my data collection tool and analyze the data. However, as it was not my own class, I could apply it as long as the cooperating teacher allowed me to do it." (ST5.I2)*
>
> ***E193:*** *"I say it with all my sincerity. I am very pleased with the result. I really liked doing this. But it should not be the work of this year. I wish we also went to the practicum last year. It could have been better to do it then. The others were more comfortable while we were dealing with it." (ST15.I2)*

It is not surprising that the participants faced some difficulties during this process, as it was something they did not experience before. Atay also (2008) found that EFL teachers encountered difficulties in conducting and reporting their research.

All in all, the following results about the perceived benefits of the STRM can be drawn:

(1) The student teacher research experience contributed the participants to gain a better understanding of teaching and learning. The findings of the following studies are also in parallel with this study. For example, Brenner, Bianchini, and Dwyer (2016) also found that most of the participating teachers transformed their understandings of teachers and students as a result of their teacher research process.

(2) The findings are also parallel with Baştürk (2017), which found that the research had a positive effect on prospective teachers.

(3) The participants also stated that they gain lots of personal and practical skills, which is a finding in line with Wyatt (2010). That study also found that teachers gained practical research skills such as observation, planning, data collection, and analysis.

4.4. An Overall Discussion of the Findings

4.4.1. The Effect of the STRM on STs' conceptualization of research

It seems that the research concept in student teachers' minds is composed of two different concepts, which are scientific research and teacher research. While the STs conceptualize scientific research in accordance with the traditional notion, they conceptualize teacher research as limited to actions that can be named as reflective teaching at the beginning of the process. It can also be suggested that student teachers' conventionalized notion of research could be related to the dominance of scientific research concepts in their minds.

Although the participants still appreciate the characteristics associated with the conventionalized notion of research, their conceptions of research seem to be less conventionalized at the end of the process. Figure 11 illustrates how the conceptions of student teachers have developed during the integration of the Student Teacher Research Module. The outer circles represent the STs' conceptions of research. Before the STRM, research in their mind is mostly composed of a conventionalized notion of scientific research. The bold line around the scientific research concept represents STs' traditional notion of research. The dashed lines around teacher research represent that the STs had some illusory image of research as they were not aware of teacher research. However, they had some conceptions of teacher research. After the STRM, STs' conventionalized notion of research becomes less rigid. The dashed lines for teacher research disappear because the

STs had a systematic and rigorous notion of teacher research, and it occupied more space in their mind. The intersecting part represents they find some similarities between teacher research and scientific research.

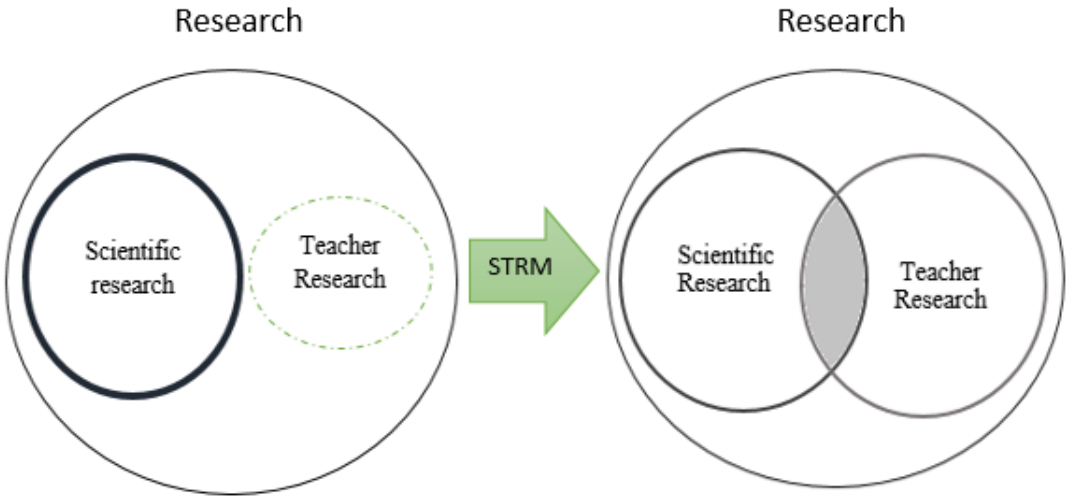


Figure 11. Student teachers' conceptions of research before and after the STRM

4.4.2. Student Teacher Research as a Catalyst for Inquiry as Stance

For this study, a module called Student Teacher Research Module (STRM) has been developed as a component of the practicum course in an English Language Teaching Program in Turkey and small-scale research projects have been promoted within the scope of this module in order to enable the student teachers to develop as teacher-researchers. It is stated in the literature that teacher research has a flexible methodology. While designing the module, teacher research studies in the literature and definitions of research have been considered (Admiral et al., 2017; Borg & Sanchez, 2015; Carter & Halsall, 1998; Cochran-Smith & Lytle, 1999; Reis-Jorge, 2007; Richardson, 1994). Nunan (1992) states that "a systematic process of inquiry consists of three elements or components, which are (1) a question, problem or hypothesis, (2) data, (3) analysis and interpretation (p. 3). Nunan and Bailey (2009) state that research should be published "for critical scrutiny" and "to inform the field." In this study, ST research projects have been integrated into the course by following the steps planning, implementing, evaluating and disseminating. The planning stage includes finding a topic, identifying research questions, and writing a research project

proposal. The implementation stage consists of three steps. In the first step of this stage, a data collection tool in line with research purpose is developed, or an existing tool is chosen. In the second step of implementation, data is collected. In the third step, the collected data are analysed. In the evaluation stage, STs are expected to derive and interpret their findings. In the final stage of the module, which is dissemination, STs write a research report and present their studies in a student teacher research conference.

The module aims to provide background information for student teachers about the nature of teacher research and to increase their awareness of teacher research. It is thought that conducting research as part of the internship in the teacher education program may contribute to student teachers. For this reason, the STs are asked to conduct small-scale research projects as part of their practicum course. The reason for integrating this practice into the practicum is that a practicum school is a place in which student teachers can access to students and collect data more easily.

As shown in Figure 12, student teachers' technical and practical knowledge regarding teacher research is supported during the process. Theoretical knowledge refers to providing background information about the nature, reasoning, and procedure of teacher research. On the other hand, practical knowledge is the knowledge that is acquired through hands-on experiences. During the process of STRM integration, theoretical knowledge about teacher research is provided as input. During the action step, this theoretical knowledge is turned into practical knowledge. One of the purposes of the study is to understand how the participating students' attitudes towards research has developed over time. It is suggested that this process of integration enables student teachers to develop attitudes towards research, which include cognitive and affective attitudes towards and self-efficacy in teacher research. Furthermore, the findings of the study reveal that the technical knowledge provided during the process, mentoring and feasibility have been acknowledged by the participants. Specifically, mentoring and feasibility are considered to be the facilitators of student teacher research. Another factor that determines the success of the student teacher research is the support of the practicum context. Without the support of the collaborating teacher and the students in the practicum school, it is quite hard for the STs to complete their projects. It has also been revealed that the student teachers have developed positive cognitive and affective attitudes during the process. They have also stated that their self-efficacy in doing teacher research has developed during the process.

At the output step of the product stage, the participants start to see teacher research as a systematic study with the help of the knowledge they have constructed throughout the process. The short-term outcomes of this integration are small-scale research projects conducted by student teachers. Student teachers start to construct their own knowledge regarding the nature of teacher research, which is an output of the module. In the short run, student teachers complete research products, which are short-term outcomes of the study. According to Cochran-Smith and Lytle (2015), they can be seen as inquiry as a project.

The integration of student teacher research module could be a good way in order to promote teacher research engagement. When STs engage with teacher research in their teacher education programs, their awareness of the possibility of conducting research in a classroom context is raised. The model also suggests that mentoring, feasibility and practicum context can play a role as facilitators for student teacher research.

Inquiry as stance (Cochran-Smith & Lytle, 2015) is considered to be related to the appreciation of the systematicity of teacher research and seeing it as a beneficial part of teaching. This study has also revealed that the STs see teacher research as a systematic study with the help of the knowledge they have constructed throughout the process. It can be asserted that the management of the integration process and the facilitators affect student teachers' attitudes towards teacher research. The positive attitudes developed through the integration could be effective in intended-behaviour for teacher research. It can be considered as a long-term outcome of the study, which could also be seen as a step for inquiry as stance.

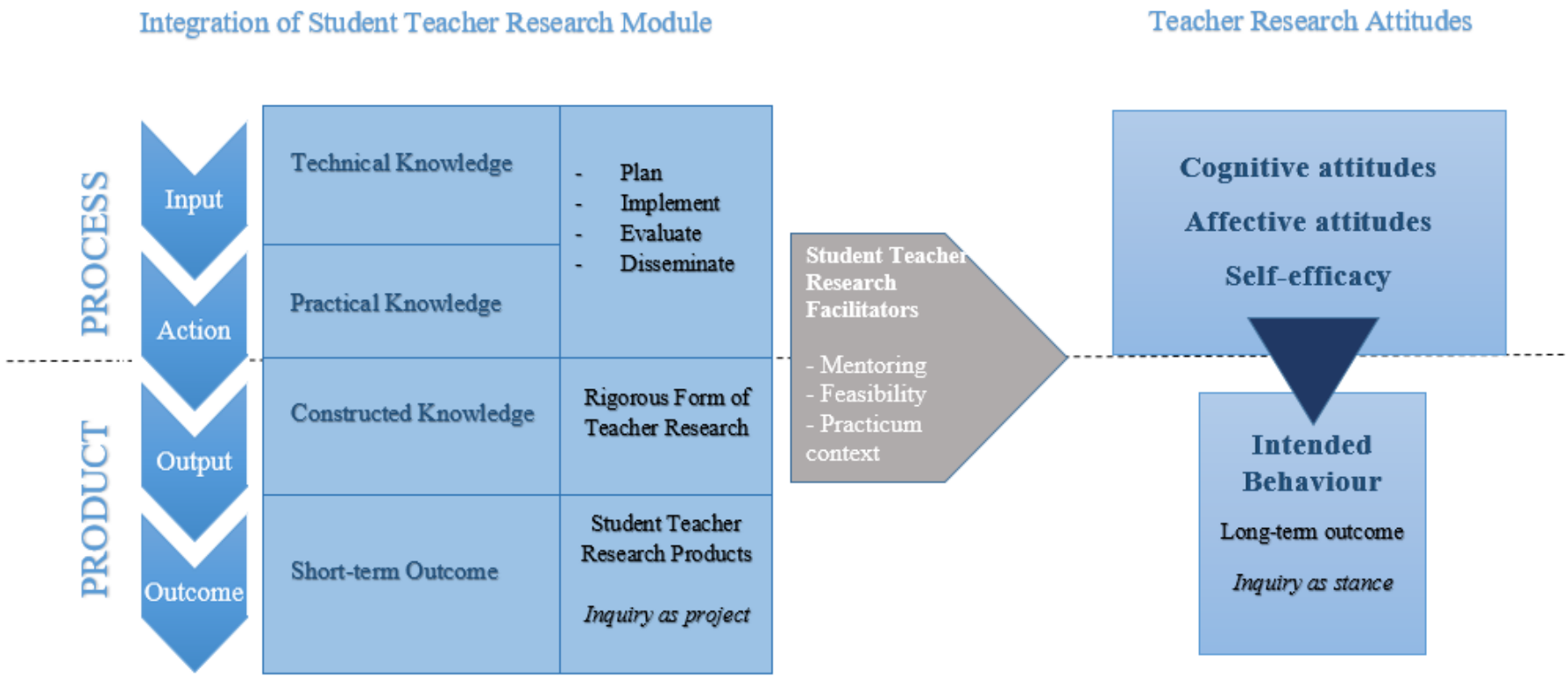


Figure 12. Student Teacher Research Module as a catalyst for inquiry as stance

CHAPTER V

CONCLUSION

This chapter draws upon the entire study. Firstly, a summary of the current study is given. After that, the implications of the study and the theoretical model which emerged out of the study are presented. Finally, the areas for further research are identified.

5.1. Summary of the Study

The aims of this study are to (1) understand student teachers' conceptions of research (2) and their attitudes towards research during the integration of the Student Teacher Research Module (STRM) as a component of practicum in an SLTE program and (3) to explore student teachers' perceptions about this module.

In parallel with these purposes, a module called the STRM has been designed considering the necessity of developing teacher research skills in teacher education programs, and it has been integrated into the practicum course in a language teacher education program. The main purpose of this integration is to increase the awareness of student teachers about teacher research and to motivate them to make teacher research a part of their teaching when they start their profession.

"A partially mixed sequential dominant status design" (Leech & Onwuegbuzie, 2009) has been adopted for the study. The participants of the study are 16 senior student teachers at Gazi University English Language Teaching Program in Turkey. Different data sources, such as a questionnaire, interviews, and reflective journals, are used for data triangulation.

The first two sections of Borg's (2009) "English Language Teachers' Views of Research" questionnaire is administered to the participants in order to understand how they conceptualize research. To better understand the reasons for their assessments and allow the participants to explain their choices in the questionnaire, oral follow-up data are collected. Furthermore, two semi-structured interviews are conducted with the student teachers, one is before, and one is after the integration of the module. Moreover, the student teachers keep reflective diaries about each step of the module. The guiding questions for these diaries include their reflections on their experiences and the challenges they have had during the process, and also their ideas about the outcomes of the project they have conducted.

Descriptive statistics is used to analyze quantitative data of the study, and for qualitative data, content analysis on MAXQDA 2018.2 is done. The collected data bring about important findings for the three research questions of the study:

Research Question 1: What are the student teachers' conceptions of research during the integration of the Student Teacher Research Module (STRM) as a component of practicum in an SLTE program?

The first research question explores student teachers' conceptions of research. The findings revealed that student teachers' conceptions of research seemed to be conventionalized at the beginning of the process. These findings are also in line with some previous research, which states that teachers have a conventionalized notion of research (e.g., Banegas, 2018; Borg, 2009; Shkedi, 1998). The findings also indicated diversity existing among student teachers in terms of their understanding of what counts as research. Their research conceptions seem to be mostly related to scientific research notions, but some of them also recognized some personally-motivated endeavour or reflective activities as research. This finding also corresponds with the findings of Tavakoli and Howard (2012) which reveal that the participants have a variety of different interpretations of what constitutes research and most of which are somewhat different from more established notions of research, e.g., trying to design a study or gathering and analyzing data systemically.

While the STs tended to provide a functional definition for teacher research at the beginning, they defined it as a process that involves systematic and conventional data

collection at the end of the STRM integration. In other words, after the designed module, while preservice teachers considered the research to be a less conventional concept, they started to see teacher research as a systematic and rigorous form of research. They also stated that teacher research showed similar characteristics with scientific research, which is a finding that corresponds with Çelik and Dikilitaş (2015).

The STs, who had previously thought that theoretical knowledge was not required for teacher research, emphasized the necessity of teacher research knowledge throughout and after the application. They also stated that they had not been aware of teacher research before. We can say that the integration of this module raised student teachers' awareness of teacher research, which is a feasible form of research.

All in all, it can be said that a less conventionalized notion of research emerged after the application. The participants' conceptions of scientific research were still conventionalized but to a lesser extent. They also valued a systematic and rigorous form of teacher research.

Research Question 2: What are the student teachers' attitudes towards research during the integration of the STRM?

The second research question aims to reveal the STs' attitudes towards research during the STRM integration. The STs' attitudes towards both teacher research and scientific research were subsumed under four categories, which are cognitive attitudes, affective attitudes, self-efficacy, and intended behaviour for research. For the categorization of attitudes towards research, van der Linden et al.'s (2015) categorization and the relevant literature were taken into consideration. In this study, cognitive attitudes towards research comprise STs' perceived ease of research, perceived knowledge in research, and usefulness of research engagement. Affective attitudes towards research cover the feelings of and interest in research engagement. Perceived self-efficacy in research is composed of one's beliefs in his capabilities to carry out research. These beliefs could be either self-satisfying or self-dissatisfying. Intention behaviour for research is an individual's intention to use research in future practice.

The STs stated that they found teacher research relatively easier and feasible than scientific research after the application. They also felt that they gained theoretical and practical information in order to carry out teacher research. Furthermore, they perceived that they

gained self-efficacy in conducting teacher research. When it comes to their affective attitudes, it was found that their interest and positive feelings developed towards teacher research during the process. Nearly all the participants claimed that they would definitely do teacher research in their future practice.

Research Question 3: What are the student teachers' perceptions about the STRM?

The third research question aims to understand the student teachers' perception about the STRM. While some of the STs were excited about doing a student teacher research study, some of them were worried at the beginning of the process. The STs expressed reasons for their excitement or concern about doing a student teacher research project during the practicum, and these reasons were categorized as motivators and stressors correspondingly. The motivators were connected to personal interest in research or expectancy about the outcomes. The STs thought that this project would contribute to them both personally and professionally. The stressors were categorized as research-relevant and research-irrelevant. While the former included mostly student teachers' attitudes towards research and lack of research experience, the latter included practicum anxiety and timing. It can be suggested that attitudes towards research have a significant role for willingness to do teacher research. When the research-irrelevant stressors are considered, it can be suggested that mentoring and feasibility of teacher research may help them overcome their anxiety during the process.

The STs stated that student teacher research projects conducted within the scope of the STRM provided contributions to their professional and personal skills. After the application, they stated that they learned how not to rely on their assumptions. They also underlined that they understood the role of knowing students in teaching. They also stated that they had stronger beliefs about changing things by doing teacher research. Apart from these, they also acknowledged the importance of preparing well-prepared data collection tools, having an extensive literature review, feasibility, qualitative data, having a good plan, publishing the study, and triangulation. These findings are in line with Wyatt (2010). That study also found that teachers gained practical research skills such as observation, planning, data collection, and analysis.

The challenges the students had were categorized under two headings, which are module relevant and module irrelevant. The former includes difficulties in the literature review, narrowing down the topic, correspondence between research questions and data collection tools, identifying irrelevant items in the data collection tools. The most common challenges they mentioned were the time limit and the busy schedule of the program.

It is possible to draw from this study that student teacher research experience contributed the participants to gain a better understanding of teaching and learning. The findings of the following studies are also in parallel with this study. For example, Brenner, Bianchini, and Dwyer (2016) also found that most of the participating teachers changed their understandings of teachers and students at the end of their teacher research process. The findings are also parallel with Baştürk (2017), which revelaed that the research process affects prospective teachers positively.

5.2. Implications of the Study

This study has demonstrated that the integration of student teacher research into the practicum course in an SLTE program can yield fruitful results. It has been suggested in the literature that teachers should envision research as relevant to their practices, and instructors prepare student teachers to conduct research as part of learning to teach. Assisting student teachers in learning to research as they learn to teach seems to be a promising avenue, as van Zee (1998) states. Hence, it is important to raise the awareness of STs about teacher research as it has lots of benefits. Teacher education programs should give special attention to promoting student teacher research.

The study indicates that the STs' conceptions of research have become less conventionalized after student teacher research engagement. Even though some of them find it relatively challenging to conduct the projects in their final year, they state that it has made great contributions to their personal and professional development. They also stated that they intended to do research when they commence their career as a language teacher.

If we educate teacher-learners to face the extraordinary challenges of teaching, we must acknowledge that we do not have answers to all the problems and obstacles they currently face or those that will arise in their future careers. Educating teachers to find questions in their practice and to systematically collect evidence that will help them better understand

and improve their teaching is one of the best tools that can be offered for a career in which they feel empowered to make a change.

5.3. Suggestions for Future Research

The findings of the study indicated that student teacher research projects could help student teachers develop positive attitudes towards teacher research. For this reason, longitudinal studies might be carried out in order to see whether these intended behaviours turn into actual behaviour.

It can be said that teacher research is mostly neglected in teacher education programs. The integration of student teacher research could be carried out at different teacher education programs in order to see whether they would lead to similar results.

Future studies can also consider assessing student teachers' teacher research knowledge. The project assignments emerging out of this integration can be subject to critical scrutiny. Standards for evaluating teacher research can also be developed to assess the quality of teacher research products.

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APPENDICES

APPENDIX 1. The Questionnaire For Conceptions of Research

Section 1: Scenarios

The purpose of this section is to elicit your views on the kinds of activities which can be called research. There are no right or wrong answers. Read each description below and choose one answer to say to what extent you feel the activity described is an example of research.

1. A teacher noticed that an activity she used in class did not work well. She thought about this after the lesson and made some notes in her diary. She tried something different in her next lesson. This time the activity was more successful.

Definitely not research	Probably not research	Probably research	Definitely research

2. A teacher read about a new approach to teaching writing and decided to try it out in his class over a period of two weeks. He video recorded some of his lessons and collected samples of learners' written work. He analyzed this information then presented the results to his colleagues at a staff meeting.

Definitely not research	Probably not research	Probably research	Definitely research

3. A teacher was doing an MA course. She read several books and articles about grammar teaching then wrote an essay of 6000 words in which she discussed the main points in those readings.

Definitely not research	Probably not research	Probably research	Definitely research

4. A university lecturer gave a questionnaire about the use of computers in language teaching to 500 teachers. Statistics were used to analyze the questionnaires. The lecturer wrote an article about the work in an academic journal.

Definitely not research	Probably not research	Probably research	Definitely research

5. Two teachers were both interested in discipline. They observed each other's lessons once a week for three months and made notes about how they controlled their classes. They discussed their notes and wrote a short article about what they learned for the newsletter of the national language teachers' association.

Definitely not research	Probably not research	Probably research	Definitely research

6. To find out which of two methods for teaching vocabulary was more effective, a teacher first tested two classes. Then for four weeks, she taught vocabulary to each class using a different method. After that, she tested both groups again and compared the results to the first test. She decided to use the method which worked best in her own teaching.

Definitely not research	Probably not research	Probably research	Definitely research

7. A headmaster met every teacher individually and asked them about their working conditions. The head made notes about the teachers' answers. He used his notes to write a report which he submitted to the Ministry of Education.

Definitely not research	Probably not research	Probably research	Definitely research

8. Mid-way through a course, a teacher gave a class of 30 students a feedback form. The next day, five students handed in their completed forms. The teacher read these and used the information to decide what to do in the second part of the course.

Definitely not research	Probably not research	Probably research	Definitely research

9. A teacher trainer asked his trainees to write an essay about ways of motivating teenage learners of English. After reading the assignments, the trainer decided to write an article on the trainees' ideas about motivation. He submitted his article to a professional journal.

Definitely not research	Probably not research	Probably research	Definitely research

10. The Head of the English department wanted to know what teachers thought of the new coursebook. She gave all teachers a questionnaire to complete, studied their responses, then presented the results at a staff meeting.

Definitely not research	Probably not research	Probably research	Definitely research

Section 2: Characteristics of Good Quality Research

Here is a list of characteristics that research may have. Tick ONE box for each to give your opinion about how important it is in making a piece of research "good".

	Unimportant	*Moderately important*	*Unsure*	*Important*	*Very important*
a. A large number of people are studied	☐	☐	☐	☐	☐
b. A large volume of information is collected	☐	☐	☐	☐	☐
c. Experiments are used	☐	☐	☐	☐	☐
d. Hypotheses are tested	☐	☐	☐	☐	☐
e. Information is analysed statistically	☐	☐	☐	☐	☐
f. Questionnaires are used	☐	☐	☐	☐	☐
g. The researcher is objective	☐	☐	☐	☐	☐
h. The results apply to many ELT contexts	☐	☐	☐	☐	☐
i. The results are made public	☐	☐	☐	☐	☐
j. The results give teachers ideas they can use	☐	☐	☐	☐	☐
k. Variables are controlled	☐	☐	☐	☐	☐

APPENDIX 2. Semi-Structured Interview Questions

Pre- and Post Interview Questions

1- What comes to your mind when you think of scientific research?

2- Who conducts scientific research?

3- Why is scientific research conducted?

4- What do you think about the ease of conducting scientific research?

5- Are you interested in reading scientific research? Why?

6- Would you be interested in doing scientific research? Why?

7- Do you think that you can do scientific research? Why?

8- Do you think that teachers need to read scientific research? Why?

9- Do you think that teachers need to do scientific research? Why?

10- Have you ever heard about teacher research?

11- What kind of research can a teacher do in the classroom? Can you exemplify it?

12- What is technical knowledge required to conduct teacher research in a classroom?

13- What do you think about the ease of conducting teacher research?

14- Do you think that teachers need to conduct teacher research? Why?

15- Are you interested in reading teacher research? Why?

16- Do you think that you can do teacher research? Why?

17- When you become a teacher, would you consider doing teacher research? Why?

18- What might prevent you from doing research when you become a teacher?

Other Questions Included in the Post-Interview

19- Are there any changes in your conceptions of research after this application?

20- What do you think about the integration of this application into the practicum course?

21- What kind of challenges have you had throughout the process?

22- What kind of lessons have you drawn from this experience?

23- Do you think that this course has contributed to you? If yes, in what ways?

APPENDIX 3. Reflective Journal Assignments (RJAs)

Reflective Journal Assignment 1:

Purpose: The aim of this assignment is to understand what student teachers have learned about teacher research and how they react to it. The second purpose is to raise their awareness of alternative forms of research and enable them to see samples. The third purpose is to understand their initial reactions to do student teacher research project.

Assignment:

a) Reflect on what you've learned about the nature of teacher research

b) Discuss how scholarly articles, teacher forums, and BA projects (Please check the appendices and the links given in the slide show to see samples for each) can contribute to a student teacher.

c) Choose one of the statements below and give your reasons (You can choose both of them and give reasons for each)

> The idea of conducting small-scale teacher research in practicum excites me because …
>
> The idea of conducting small-scale teacher research in practicum worries me because …

Reflective Journal Assignment 2:

Purpose: The aim of this assignment is to understand the student teachers' experiences and challenges in finding a topic for their small-scale student teacher research projects

Assignment:

Reflect on

a) your experiences and challenges while you were finding your topic and writing your proposal

b) outcomes of this process

c) the feedback session

Reflective Journal Assignment 3:

Purpose: The purpose of this assignment is to understand student teachers' experiences and challenges while developing or choosing a data collection tool. Another purpose is to learn about their ideas about the ongoing process

Assignment:

1. Reflect on

a) your experiences and challenges while developing or choosing a data collection tool

b) outcomes of this process

c) the feedback session

2. Evaluate what has been done so far for this practice. What do you think this process brings to you? What would you recommend to improve this practice?

Reflective Journal Assignment 4:

Purpose: The purpose of this assignment is to understand student teachers' experiences and challenges while collecting and analyzing data

Assignment:

Reflect on

a) your experiences and challenges while collecting and analyzing data

b) outcomes of this process

c) the lessons you have drawn from this project up to now

Reflective Journal Assignment 5:

Purpose: The purpose of this assignment is to understand student teachers' experiences and challenges while reporting and presenting their research project

Assignment:

Reflect on

a) your experiences and challenges during reporting and presenting your study

b) outcomes of this process

c) your feelings while presenting your research project

d) your friends' presentations in general and the things you've learned from them

e) the contributions of this small-scale research project to you as a teacher candidate

APPENDIX 4. Samples For Reflective Journal Assignments

Sample 1 For RJA 1

Reflection Paper About Teacher Research

Teacher research, as the name suggests, is a systematic data collection which is usually undertaken by teachers. This research, like all types of researches, needs to be made public. It is usually small-scale, qualitative research. Teachers evaluate their teaching in order to offer better quality teaching. It is useful since it is conducted for students' improvement and achievement. Teachers can enrich their teaching and if necessary, teacher research can change their teaching practice.

In my opinion, reading scholarly articles, BA projects and forums can help student teachers learning different methods. They can give them an idea about what student teachers will do, which way they will take when they become teachers. They can give some clues about teaching. For instance, through reading 'Pairing in EFL Classes', I have learnt different ways to pair students such as using synonym/antonym flashcards. Also it taught me that pairing activities can be a review of the subject. The article of 'The Use of the L1 in the Elementary English Language Classroom' gave me a different perspective about using L1 in the language classroom. I have learnt because of the class size, the level of the learners, time constraints and the type of classroom activities, L1 can be used.

Through BA projects, I have seen teacher's some problems that they have faced in the teaching process and what they have done to overcome these problems. Thanks to some forums and articles, some of my prejudices have changed, such as using translation in the lesson. Now, I know that in some cases, translation can be used and it can be really helpful for students. Furthermore, these articles offer lots of different activities that I can't think of. I will probably use them in my future classes.

The idea of conducting a small-scale teacher research in practicum excites me because as I read articles, I see that writing an article is not that difficult. If I read and search more, I will feel more confident and I can write lots of articles. Doing this research makes me feel like I am an academician. Lastly, I think that doing a research and writing an article will improve both my vocabulary and my writing skills.

(By ST6)

Sample 2 for RJA 1

Teacher Research

There are so many essays and researches conducted by professors, as a student I read some of them and I have an idea about what the research is. However, I've learned that I also can do a research and there is a term for it which is called "teacher research". Teacher research is organized, systematic inquiry with the goal of answering questions. The major components of teacher research are conceptualization which means finding a problem, implementation which means collecting data, and interpretation which means analyzing the data. I personally believe that this research is really powerful and effective. It enables the teachers to expand their teaching skills. It can also change the teachers' practice.

Even the teachers who do not conduct a research can take advantage of teacher research by reading the articles, teacher forums, and BA projects. We all as student teachers have an idea about teaching techniques, classroom atmosphere, different language activities, and learning styles and so on. However, most of us do not have a chance to see all these in a real class. Therefore, these conducting researches are really important for us. They give as an idea about real classroom. For instance, we know that games are important and affective in EFL classrooms but this is not enough. If we check the forum written by PHAM HUYNH PHU QUY, it helps us to look from another perspective to cooperative game playing in the EFL classroom. Moreover, there are some different thoughts about teaching English. One of them is the use of translation in EFL classes. So reading teacher researches about it helps us to broaden our horizons.

The idea of conducting a small-scale teacher research in practicum both excites and worries me at the same time. First of all, I always wander how the language learning take place does and I have lots of question in my mind. Thanks to the teacher research, I have a chance to find answers at least one of these questions. The idea of observing the class, analyzing the data, finding answers my questions makes me really exited. On the other hand, I have some doubts about how can I manage this process. However, I believe that after I choose my focus area and start doing my search, everything will be fine. This will be my first experience and it will give me an idea about how to teach in my class in the future.

(By ST3)

APPENDIX 5. Project Assignments (PAs)

Project Assignment 1. Finding a focus area

-What is my broad topic area?

-Why am I interested in this topic?

-What do I want to know about this topic?

-How will it improve my students' learning or my teaching?

-What am I likely to learn about by focusing on this topic?

Adapted from Anne Burns, Doing Action Research in English Language Teaching: A Guide For Practitioners (2009), p. 28

Project Assignment 2. Research Proposals

Research Area	
Literature Review (at least three articles)	
Title of the article	
Purpose	
Research questions	
Data collection tools	
Findings	
Research Purpose	
Research Questions	
Methodology	
Context	
Participants	
Data Collection Tools	
Timeline	
Steps	

APPENDIX 6. Samples For Project Assignments

A Sample for Project Assignment 1 "Finding a focus area."

What is my broad topic area?

What kinds of homework assignments are the most effective?

As every teacher knows, homework is defined as school-related assignments by a teacher, or through mutual agreement of the student and teacher, which will require time and effort outside of the regular classroom for successful completion (Emami et al., 2012). Additionally, Foyle and Baily (1985) found that homework increased student achievement only when the homework was regularly assigned, clearly stated, regularly collected, promptly graded, and quickly returned. After looking at these aspects, we decided to make "homework assignments" my topic area.

Why am I interested in this topic?

In the classroom we observed, more than half of the activities are given as homework. Then, they do these homework activities on the board. It can be a subject that we can easily observe and enjoy in the classroom.

What do I want to know about this topic?

We want to observe how interested the students are in the assignment and how they react to these assignments.

How will it improve my students' learning or my teaching?

By doing this, students will be motivated in my classroom, they need to improve when it comes to their teaching skills and improve their ability to reason critically and independently.

What am I likely to learn about by focusing on this topic?

As a trainee, doing such research before taking up a job is a big step for teachers. Homework is where extracurricular learning begins. Giving an idea to the teachers and providing them with many ways are the most important factors.

(By ST1 & ST6)

A Sample for Project Assignment 2 "Research Proposal"

Researchers: ST1 & ST6

Research Area: What kind of homework assignments attract students' attention most?

Literature Review

Article 1

Title of article: The Value of Homework: Is homework an Important Tool for Learning in the Classroom?

Purpose: The existence, scope, development and evaluation of homework policies.

RQS:

1- Should homework be assigned and graded on a regular basis, or should it be viewed as an educational means to an end?

2- Should one centralized school or district policy govern homework, or should some flexibility exist?

Data Collection Tools: Three-part questionnaire

Findings: Only 50% of the schools indicated the existence of a written homework policy.

Article 2

Title of article: Extension homework and classroom assignments

Purpose: Whether different types of homework assignments influenced the acquisition of vocabulary knowledge and understanding if the students provided with extension homework required vocabulary better than those just given the classroom assignments.

RQS:

1- Do the students provided with extension homework require vocabulary better than those just given the classroom assignments?

2- What is the role of extension homework on high school students' learning comparing with class-work assignments?

Data Collection Tools: Pre-test and post-test for vocabulary

Findings: The mean scores for two groups were 34.5 and 30.65 out of 50. The students who received extension homework had a better of taught vocabulary than those who received just classroom assignments.

Article 3

Title of article: Increasing the Effectiveness of Homework for All Learners in the Inclusive Classroom

Purpose: How teachers can increase effectiveness of homework assignments for all learners.

RQS: How can homework be improved to be doable and effective?

Data Collection Tools: Summary of the researchers' findings.

Findings: When teachers believe in the importance of their homework enough to apply research-based strategies and truly facilitate effective homework practice, they will create a classroom of learners who also believe in the importance of the work and, ultimately, of themselves.

Research Purpose: After taking students' opinion about homework, to analyze which types of homework they like and giving them homework accordingly. Then, to observe students' performances.

Research Questions:

1- Which types of assignments attract students the most?

Methodology

Context: An Anatolian High School

Participants: 30 students from 9th graders

Data Collection instrument:

1) Observation: Behaviour Checklist
2) Non-observation: Classroom Documents and Questionnaires
3) Interview

Timeline:

Our small-scale research will continue for 5 weeks of practicum

Steps:

1) Observation about their behaviours toward homework

2) Questionnaires about homework types and their behaviours

3) Data analysis

4) Giving some homework according to our findings

A Sample for Project Assignment 3 "Data Collection Tool"

Sözel Düzeltme Geribildirimleri

Değerli katılımcı,
Bu uygulamanın amacı İngilizce konuşurken yaptığınız hataların düzeltilmesiyle ilgili ne düşündüğünüzü anlamaktır. Araştırmaya vereceğiniz cevaplar saklı tutulacaktır. Katkılarınız için teşekkürler.

A. Aşağıdaki maddelerden size en uygun olanı seçip cümleyi tamamlayınız.

1. Derste İngilizce konuşurken yapmış olduğum kelime hatalarını
   - ○ Öğretmenimin hemen düzeltmesini isterim çünkü
   - ○ Öğretmenin ders sonunda düzeltmesini isterim çünkü
   - ○ Öğretmenin göz ardı etmesini isterim çünkü
   - ○ Kendi kendime düzeltmem için öğretmenimin bana ipucu vermesini beklerim çünkü

2. Derste İngilizce konuşurken yapmış olduğum telaffuz hatalarını
   - ○ Öğretmenimin hemen düzeltmesini isterim çünkü
   - ○ Öğretmenin ders sonunda düzeltmesini isterim çünkü
   - ○ Öğretmenin göz ardı etmesini isterim çünkü
   - ○ Kendi kendime düzeltmem için öğretmenimin bana ipucu vermesini beklerim çünkü

3. Derste İngilizce konuşurken yapmış olduğum gramer hatalarını
   - ○ Öğretmenimin hemen düzeltmesini isterim çünkü
   - ○ Öğretmenin ders sonunda düzeltmesini isterim çünkü
   - ○ Öğretmenin göz ardı etmesini isterim çünkü
   - ○ Kendi kendime düzeltmem için öğretmenimin bana ipucu vermesini beklerim çünkü

B. Aşağıdaki boşluğu size uygun bir sıfatla doldurduktan sonra cümleyi tamamlayınız.

1. İngilizce konuşurken yapmış olduğum hataları öğretmenim hemen düzeltince…… hissederim çünkü

2. İngilizce konuşurken yapmış olduğum hataları öğretmenim ders sonunda düzeltince……. hissederim çünkü

3. İngilizce konuşurken yapmış olduğum hataları öğretmenim göz ardı edince …… hissederim çünkü

4. Derste İngilizce konuşurken yapmış olduğum hataları öğretmenimin verdiği ipuçları sayesinde kendim düzeltince…….hissederim çünkü

(By ST14)

A Sample for Project Assignment 5 "Research Reports"

Which types of homework activities attract students most?

Introduction

Homework is seen as a valuable resource for teaching, allowing students to practice, and in doing so, learn the unit material. Previous studies show that the importance of flexibility in the assignment and evaluation of quality homework assignments are root ideas in language teaching. It means placing little or no emphasis on grades and focusing on the mastery goal and giving constructive feedback. (Carbone & Steven, 2009)

Homework assignments typically have one or more purposes. The most common purpose is to have students practice material already presented in class. So, practice homework is for revising the learned-points. Preparation homework which is other types of homework is considered a warm-up of future courses. As for creative homework, this helps to improve students' creativity. For extension homework, students are supposed to apply skills they already have to new situations such as project-making.

According to Carr (2013), there are five fundamental characteristics of good homework: purpose, efficiency, ownership, competence and aesthetic appeal. First of all, homework need a purpose to engage students in the process. Then, homework shouldn't take an inordinate amount of time, and should require thinking in terms of efficiency. For the third criterion, student who feel connected to the content and assignment learns more and more, so ownership should be provided. As for competence, students should feel responsible when completing their homework. For the last criterion, the way homework looks is important. The homework assigned in the scope of this study is prepared according to these characteristics and homework types.

The aim of the study is to find out which types of homework activities students are more interested in. Significance of the study is to emphasize the importance of homework which can be more effective and interesting when students' expectations are considered.

Research question: Which types of homework activities attract students most?

Methodology

The sample of the study included 36 participants comprising 22 females and 13 males. The EFL learners who participated in this study were learning English in elementary level. This research was applied in an Anatolian High School.

At first, a questionnaire was prepared according to the information that is examined from the articles. After that, the questionnaire was applied and analyzed. According to the results of questionnaires and relevant literature, this homework was prepared. (Appendix A)

Before giving this homework, the previous homework was examined. In addition, a meeting was held with practicum teacher. After giving homework, 4 days later, students' homework were collected. On the same day, meetings were held with 12 students.

a. Data Collection Tool

In this research, non-observation tools, which are questionnaire (3-point Likert type), classroom documents and interview, are used.

b. Data Analysis

Descriptive statistics was used to analyze the quantitative data. Then, the qualitative data came from interwiees were coded.

Results

According to questionnaire results, 89% of students have knowledge about the homework procedure. 47% of students' perspective on collaborative working is partially, but 42% of them says agree. This shows that the students are mostly neutral. Moreover, 67% of students prefer to work individually. While 42% of students gave a neutral answer to the question which evaluate positive attitude towards homework, 36% of students stated that they did not have negative attitude towards homework. 39% of students stated that they liked creative homework, and 61% of students stated that they liked project homework. 64% of students indicated that the external design of the assignments is important. Also 34% of students stated that they want to see the variety of homework. 44% of students believe that homework contributes a lot. Finally, 53% of students know that homework has a lot of beneficial aims.

The meeting that was held with the practicum teacher shows that workbook assignments, presentation assignments and writing assignments are mostly given. According to the teacher, the attitude of the students towards the assignment is negative. They do not like doing research etc. under the title of homework. They're used to it; they don't react to homework. The teacher is not smothering them too.

Among the students being interviewed, there were those who were surprised and curious. Many students felt they were improving themselves and said they remembered their old knowledge. They said they were usually given test or plain writing, and they were bored owing to these procedures. Finally, almost all interviewees said that this homework changed their attitudes towards homework.

Discussion and Conclusion

Data from interviews with students was of great importance in the evaluation part. Especially when comparing the teacher's views with the students' opinions, it is realized that there was a contradiction. While the teacher thinks that students have a negative attitude, it was proved that students do not actually have such an attitude.

In fact, according to the results, 42 percent of students have a neutral attitude. This means that students expect a movement, a push by their teachers. Because they had a neutral attitude, with a well-prepared assignment, this attitude immediately turned into a positive attitude. At least, this was the case in this study, and the students tried hard while preparing their homework. Furthermore, the practicum teacher was surprised at first when she saw the students’ homework, then liked it very much and said she wanted to use it in the students' performance grades. The next week, she asked us to give this assignment to another class.

To sum up, doing teacher research is therefore important, because the assumptions of this study may be different from students' data. So, it was also a very good research for the self-criticism of the teachers. Thanks to this research, it is proven that the 5 fundamental characteristics of good homework findings in literature review.

This negative attitude is actually exaggerated by many teachers. In fact, the students are not so negative towards homework. The teacher can get efficiency from more striking and more effective homework, and teacher research is actually something the teacher can do even for a small subject.

According to Cooper's research on the positive effects of homework; homework is beneficial as long as teachers use their knowledge of developmental levels to guide policies and expectations all in moderation.

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(By ST1 and ST6)

APPENDIX 7. A Transcription Sample

Post-Interview with Student Teacher 6

R: Şu an bilimsel araştırma deyince aklına neler geliyor?

ST6: Direkt araştırmanın basamakları aklıma geliyor. Yani bunlar bir konu belirleme, konudan sonra question belirleme, data toplama, data analizi ve sonra discussion, results geliyor aklıma. Direkt bu prosedür geliyor aklıma.

R: Kimler yapar bilimsel araştırmayı?

ST6: Yapmak isteyen herkes. Yani mesleğinde bir soru ya da sorun görebilen herkes bunu yapabilir.

R: Niçin yapılır?

ST6: Sorunlara çözüm bulmak için.

R: Kolay bir iş midir bilimsel araştırma yapmak?

ST6: Çok da değil ama prosedürü uydurduktan sonra, kendini bir şeye koyduktan sonra çok kolay.

R: Aşamaları bilirsek kolay diyorsun.

ST6: Evet.

R: Bir önceki görüşmemizde "Zor, çünkü eleştirel düşünmeyi gerektiren bir şey, başarısız olduğu zaman kişinin kendine başka bir alternatif düşünmesi gerekiyor. Bunlar onu zor yapıyor" demişsin.

ST6: Evet

R: Yine aynı görüşü savunuyorsun ama şunu ekliyorsun. Yeterli bilgi varsa daha iyi yapılabilir.

ST6: Kesinlikle.

R: Peki sen yapabilir misin bilimsel araştırmayı?

ST6: Yapabilirim. Daha önceden kendime güvenmiyordum çünkü hiçbir şekilde araştıma yöntemi bilmediğimi düşünüyordum zaten.

R: Teknik bilginin olması gerektiğini söylüyorsun sanırım. Bu yapmış olduğumuz uygulama- biz küçük çaplı bir teacher research yaptık aslında- sana bu konuda ne kattı?

ST6: Büyük çaplı bir araştırma yapmadık. Ama, bu bireysel de olabilir, ben kendim büyük çaplı bir araştırma yaparak bu teacher research'e ulaştım. Yani background information'dan tutun da , data collection tool'da sizin verdikleriniz haricinde birkaç şey daha okudum mesela. Bunların hepsi iyi oturtmak içindi. Ve oturttuğum için de şu an bir arkadaşım bana geldiğinde "şunu event checklist ile yapabilirsin" tarzında bile yorumda bulunabiliyorum.

R: O teknik bilginin seni geliştirdiğine inanıyorsun.

ST6: Evet, inanıyorum

R: Öğretmenlerin bilimsel araştırmaları okuması gerektiğini düşünüyor musun?

ST6: Evet. Çünkü sınıfta sorun odaklı bir eğitim sistemimiz var ve o sorunu çözmek tamamıyla bireysel ve öznel değil bazen. Bazen bir grupta bir sorunu çözersin ve diğer gruplarda da aynı şekilde çözebileceğine inanırsın. Burada teacher research yapıp yayınlarsan biz de bunlardan faydalanabiliriz mesela.

R: Şu an öğretmen araştırması deyince aklına neler geliyor?

ST6: Bilimsel araştırmadan farklı bir yere koymuyorum sanırım. Benim için bilimsel bir araştırmanın dalı gibi. Bilimsel araştırmanın teacher research'ü kapsadığını düşünüyorum. Benim için teacher research az veriyle çok iş yapmak gibi bir şey. Bilimsel araştırmada da benzer süreçleri takip ediyoruz. Süreç olarak birbirlerine çok benziyorlar ama bilimsel araştırmada daha geniş bir kitle var.

R: Öğretmen sınıfında ne tür araştırmalar yapabilir?

ST6: Lisede yapıyorsa yaş grubundaki öğrencilerin düşüncesi üzerine yapabilir. Derse karşı tutum üzerine veya four skills üzerine ayrı ayrı yapabilir. Biz homework üzerine yapmıştık mesela. Şöyle söyleyeyim: class element olan her şey üzerine yapabilir aslında.

R: Sınıfta bulabileceği her şey için araştırma yapabilir aslında diyorsun?

ST6: Evet.

R: Öğretmenin araştırma yapabilmesi için neleri bilmesi gerekir?

ST6: İlk olarak veri toplamada gerçekten iyi olması gerekiyor. Background information olarak okuduğu makalelerden güzel şeyler çıkarmalı.

R: İyi bir literatür taraması olması gerektiğini söylüyorsun.

ST6: Bunları taramakla kalmayıp, mesela ben her taradığımı bir tabloya dökmüştüm. O çalışmalardan neler öğrendiğimi tek tek yazdım. Literatüre fazla zaman ayrılmalı. Data toplarken de neyi, ne kadar ve nasıl toplayacağını çok iyi bilmesi. Bunları yapınca zaten results da discussion da çıkıyor.

R: İyi veri toplanırsa iyi sonuçlar çıkar diyorsun. Literatür taraması yapmanın ve düzgün veri toplamanın altını çiziyorsun.

ST6: Kesinlikle.

R: Daha önce de "Öğretmen sınıfında araştırma yapabilir mi" diye sorduğumda evet demiştin. Şu an ne düşünüyorsun?

ST6: Eskiden teacher research bilimsele dayanıyor gibi düşünmemiştim ama şu an öyle düşünüyorum.

R: Daha önceden teorik bilginin olmadığını ve o bilgi cepte olursa öğretmen araştırması yapabileceğini söylemiştin. Şu an o teorik bilgiyi kazandığını düşünüyor musun?

ST6: Evet. Özellikle data collection tools ve results hiç denemediğim bir şeydi.

R: Araştırmaya bakışında bir değişiklik oldu mu uygulama sonunda?

ST6: Oldu evet. Daha şey bakıyorum. Çok da yukarılarda olmadığını ve her öğretmenin ulaşabileceğini düşünüyorum.

R: Bilimsel araştırma ve teacher research'ü tam olarak nasıl ilişkilendirdiğini tekrarlar mısın? Anladığım kadarıyla öğretmen araştırmasını da bilimsel araştırmanın bir parçası olarak görüyorsun ama bilimsel araştırmayı daha geniş kitleye uygulanan, öğretmen araştırmasını ise daha dar kapsamlı ama aynı sürecin takip edildiği araştırma olarak tanımlıyorsun. Doğru mu anladım?

ST6: Kesinlikle. Şöyle bir benzetme yapabilirim. Bilimsel araştırma bir şemsiye ise teacher research de o şemsiyenin altında. Kesinlikle ayrı değil.

R: Bu süreçte yeni öğrendim dediğin neler var?

ST6: Sizin gönderdiğiniz bütün makaleler bana bir şey kattı açıkçası. 20 makale okumuş olabilirim. Yirmisinden de farklı şeyler öğrendim. BA projelerine baktım. Veri toplama araçlarıyla ile ilgili vermiş olduğunuz şeyler dışında kendim de araştırdım.

R: Süreçle ilgili öğrendiğin yeni bir şey oldu mu?

ST6: Şunu fark ettim. Ben genellikle makalelerin subtitlelarını okumazdım açıkçası. o subtitleların altında bir şeylerin gizli olduğunu fark ettim. Yani önce Introduction var, Metodoloji var. Siz bu başlıklar altında bize bir şeyler verdiniz sürekli. Ben de bunları okuduğum makalelerle karşılaştırdım. Aslında daha önce de gözümün önündeydi ama farkındalığım yoktu.

R: Öğretmen araştırması yapmak kolay mı?

ST6: Daha ılımlı şekilde yakınım. Yapılmalı. Yapmak kolay ama meşguliyete göre değişir. Biz zaman ayırıyoruz ama meslekte buna zaman ayrılamıyor olabilir. Bence yine de ayrılması gerekiyor. Orası ayrı bir mesele

R: Bundan sonraki süreçte, öğretmen olunca ilgini çeker mi?

ST6: Yapacağım. Buna eminim hatta ikinci dönem de yapmayı düşünüyorum. Öğrencilerin buna ihtiyacı varmış gibi hissediyorum.

R: Uygulamadan önce de böyle mi düşünüyordun?

ST6: Uygulamadan önce de böyle düşünüyordum ama bunu bir araştırma şeklinde değil de kendime bir feedback şeklinde düşünüyordum. Artık bir feedback'ten daha ötesiymiş gibi düşünüyorum.

R: Yapmış olduğunuz çalışmayla ilgili ne gibi dersler çıkardın?

ST6: Prosedür hakkında mı yoksa homework hakkında mı?

R: Her ikisi de. Hem araştırma sürecine ilişkin, hem de kendi çalışmanızla ilgili.

ST6: Araştırma sürecine ilişkin olarak şöyle: Ben hiç outline'ı bu kadar kesin bir makale yazmamıştım ya da bir presentation yapmamıştım. Her şey belirlenince daha çok akıyor. Bu akış çok önemli bir makale için. Onu fark ettim. Homework hakkında da yani ben bu kadar etkili olacağını düşünmüyordum. Diğer stajyerler de bizden ödevleri aldı ve kendi sınıflarına verecekler. Bu benim çok hoşuma gitti. Öğrencilerden çok güzel veri toplanıyor. Öğrencinin başlı başına bir veri olduğunu öğrendim.

R: Bu sürecin araştırma bilgi ve becerini ne derece geliştirdiğini düşünüyorsun?

ST6: Bir practice oldu benim için. İkinci sınıfta aldık bu dersi ama şu an daha farklı görüyorum. Mesela Hukuk Fakültesi'nden bir arkadaşımın makale yazması gerekiyordu. Ona fikir verdim.

“Outline çıkarırız. Background information bakarız. Sonra veri toplamak gerekiyor gibi” Sonra kendime baktım ve dedim ki sekiz haftadır uğraştığın şey bünyene o kadar iyi gelmiş ki. Bu aslında bir beyin sporu ve aynı zamanda teacher research bir meslek sporu bana göre. Bu beni mutlu etti ama.

R: Uygulama öncesi ve sonrası araştırma bilgi ve becerine puan verecek olsan kaç olurdu?

ST6: Öncesinde 4 veya 5, şu an 7 veya 8 veriyorum kendime.

R: Bu süreçte seni en çok geliştirdiğine inandığın ne?

ST6: Siz varsınız ☺ Sizinle olan konuşmalarımız. Sizin sürekli dönüt vermeniz. Sizinle sürekli mailleşmemiz. Bunun çok yardımı oldu diyebilirim.

R: Seni en çok zorlayan ne oldu?

ST6: Sanırım outline çıkarmak. Her şeyi topluyorsunuz ama nerede ne vereceksiniz o kesin değil. Bunu Results’da mı versem, öğrencinin yorumunu discussion’da mı versem. Bu çok karışıyor. O biraz blurry.

R: Ne olur da öğretmen araştırması yapmazsın ilerde?

ST6: Böyle bir şey olur mu ki? Bu gerçekleşebilecek bir şey değil. Eğer ben istiyorsam ve benim öğrencilerim bir veriyse neden yapmayayım?

R: Araştırmalarınızı bir konferansta sundunuz. Sunum yapıyor olmak sana ne hissettirdi?

ST6: Biraz daha ciddiyet. Evet, yapıyoruz ama bunu gören tek kişi R hoca olmayacak. Bu bir nevi pekiştireç gibi. Daha ciddiye alarak yapıyorsun başkaları da göreceği için.

R: Arkadaşlarının çalışmasıyla ilgili ne düşünüyorsun?

ST6: Birkaç tanesini not almıştım. Mutluyum bu kadar güzel şeyler çıkarıldığı için.

R: Bu uygulamanın stajın bir parçası olması konusunda ne düşünüyorsun?

ST6: Herkes challenging buluyor ama daha önce de söylemiştim. Bir daha böyle bir imkânımız olmayacaktı. Bu kadar verimli bir süreç geçiremeyecektik belki olmasaydı. Arkadaşlarım belki fark etmediler ama bu süreç onların yüksek lisansını da etkileyecek. MEB’e karşı tutumunu da etkileyecek bir şey diye düşünüyorum.

R: Uygulamayı geliştirmek için önerilerin neler?

ST6: Örnek rapor gösterilebilirdi. 16 kişi, 11 grup kalabalık oldu. Gruplar ayrılabilir sessionlar için.

R: Biraz da reflectionlardan konuşalım. Yazdığın reflectionlarda, bu tarz araştırmalar yapmanın kişiyi kalıplaşmış düşüncelerden uzaklaştırdığını söylemişsin. Bu duvarı yıkmak için çabalayacağını söylemişsin. Eklemek istediğin bir şey var mı bu konuda?

ST6: Biz bunu direkt kendi araştırmamızda bile gördük. Öğretmen “Ödev sevmezler, boş verin” diyor ama ertesi gün bize muhteşem bir kavram haritası geliyor. Öğretmenlerin kalıplaşmış düşüncesi olabilir. Buna doğru çekiliyoruz belki. Belki de bizi oraya çekmeye çalışıyorlar ama hiçbir öğretmenin bir öğrenciye bu şekilde yaklaşmaması gerektiğini düşünüyorum.

R: Bu kalıplaşmış düşüncelerden kurtulmakta öğretmen araştırmasının faydalı olabileceğini düşünüyorsun.

ST6: Feedback ve öğretmen araştırması dışında başka da bir seçenek görmüyorum. Özellikle Milli Eğitim Bakanlığı'nda çalışıyorsanız bunları yapmak önemli. Gittiğim herhangi bir okulda teacher research sessionları düzenlemeyi düşünüyorum.

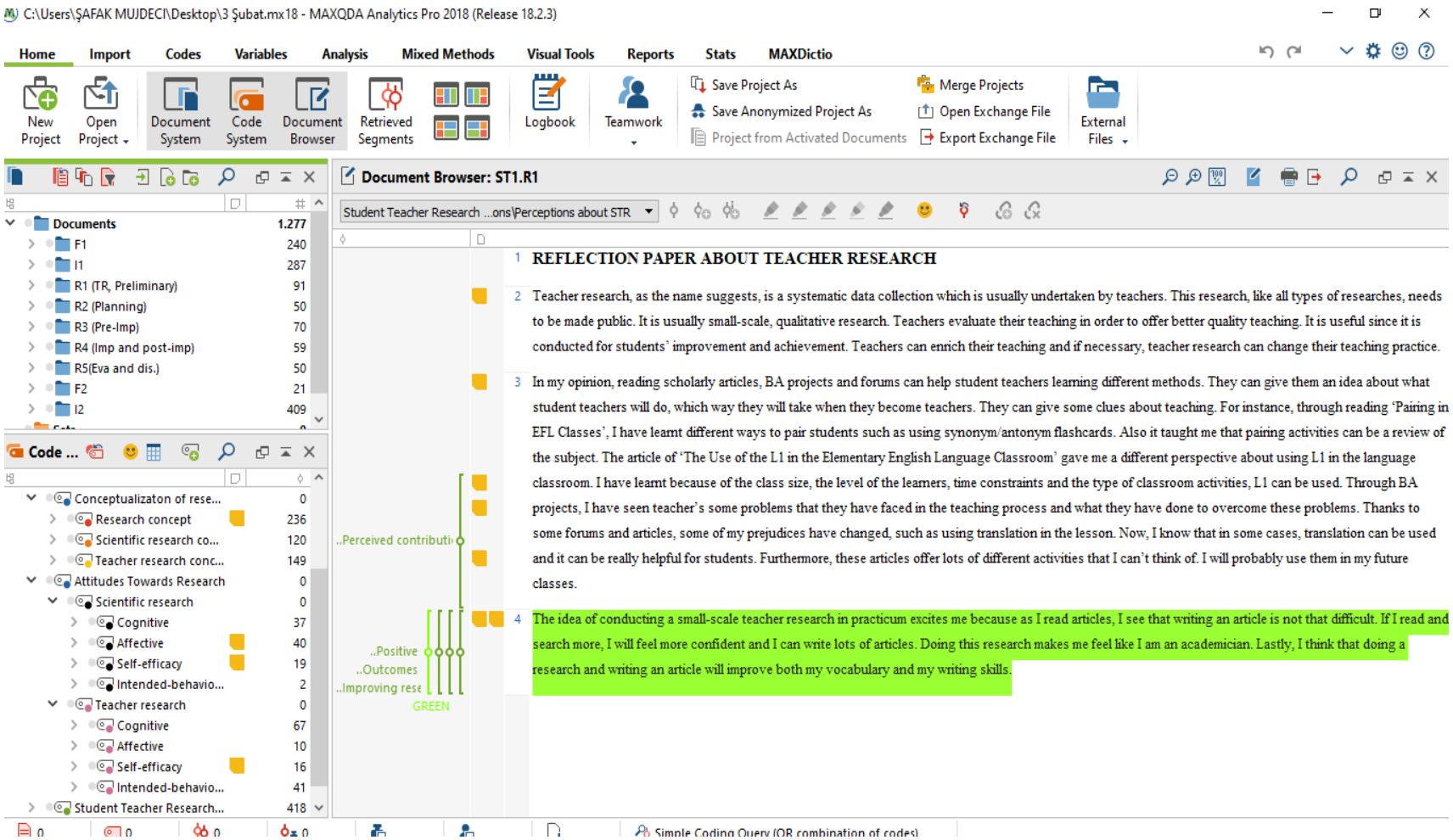
R: Bu, uygulama öncesinde de planladığın bir şey miydi?

ST6: Önceden teacher research bilmediğim ve yararını da göremediğim için bu farkındalığım yoktu diyebilirim ama şu an bunun ne kadar önemli bir yerde olduğunu gördüm. Artık bunun farkındayım ve bu benim için, öğretmen olan birisi için normal bir prosedür haline gelmeli diye düşünüyorum. En azından zümre olarak toplanılsın ve zümrelerde yapılan araştırmaların sonuçlarını bile paylaşsak bu birlik olması için çok önemli bir avantaj bence.

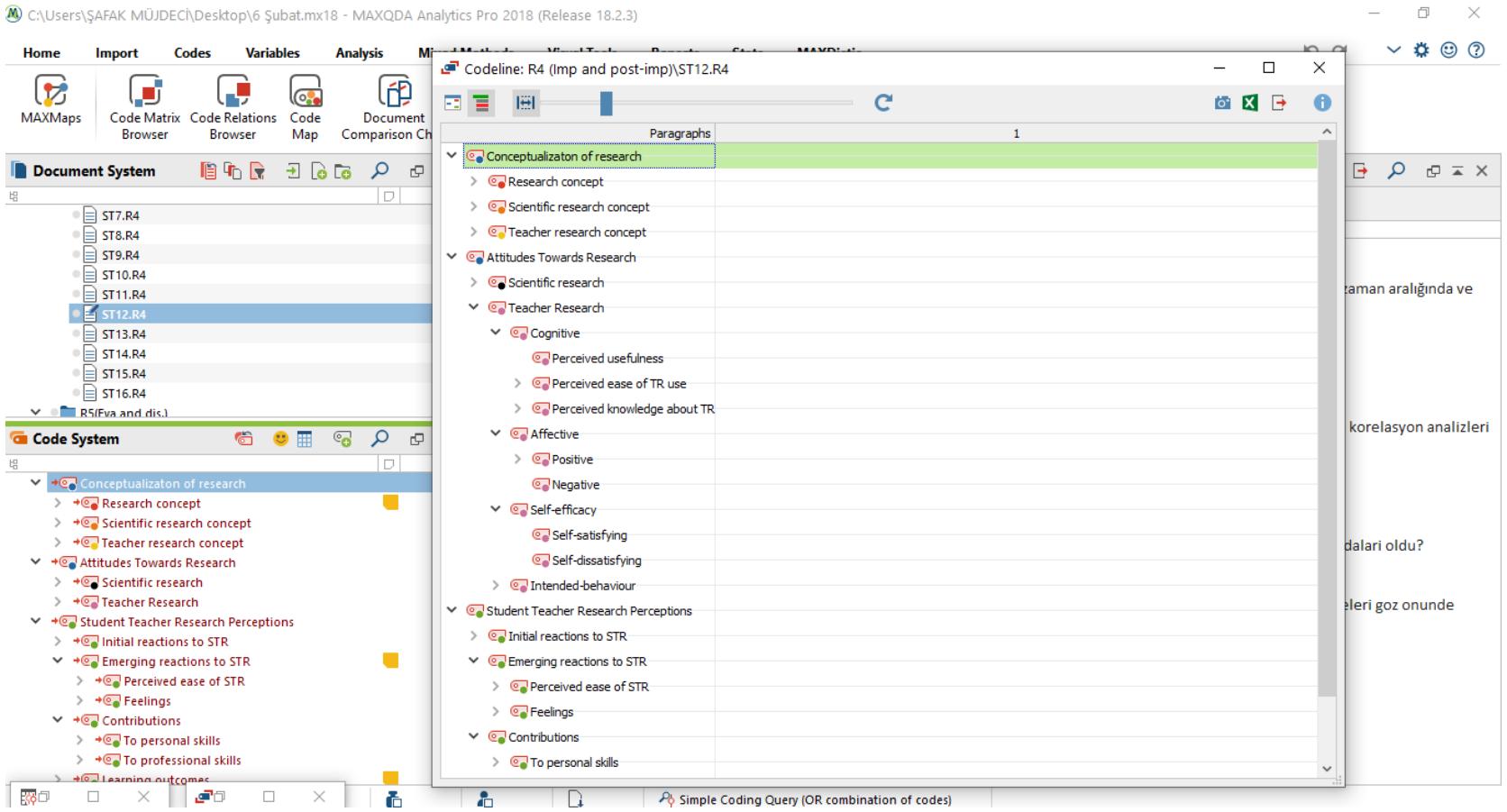
R: Reflection'ında bunların hepsi analitik ve eleştirel düşünmenin eseri demişsin.

ST6: Hiç bir results bize gelip ben şunu şunu gösteriyorum demiyor. Onları sizin harmanlamanız ve yorumlamanız gerekiyor. Bir de kullandığımız tool'un yorumlamayla ilgisi çok büyük. Ne kadar araştırmayı cover eden bir tool kullanırsan o kadar çok yorum yapma şansın oluyor.

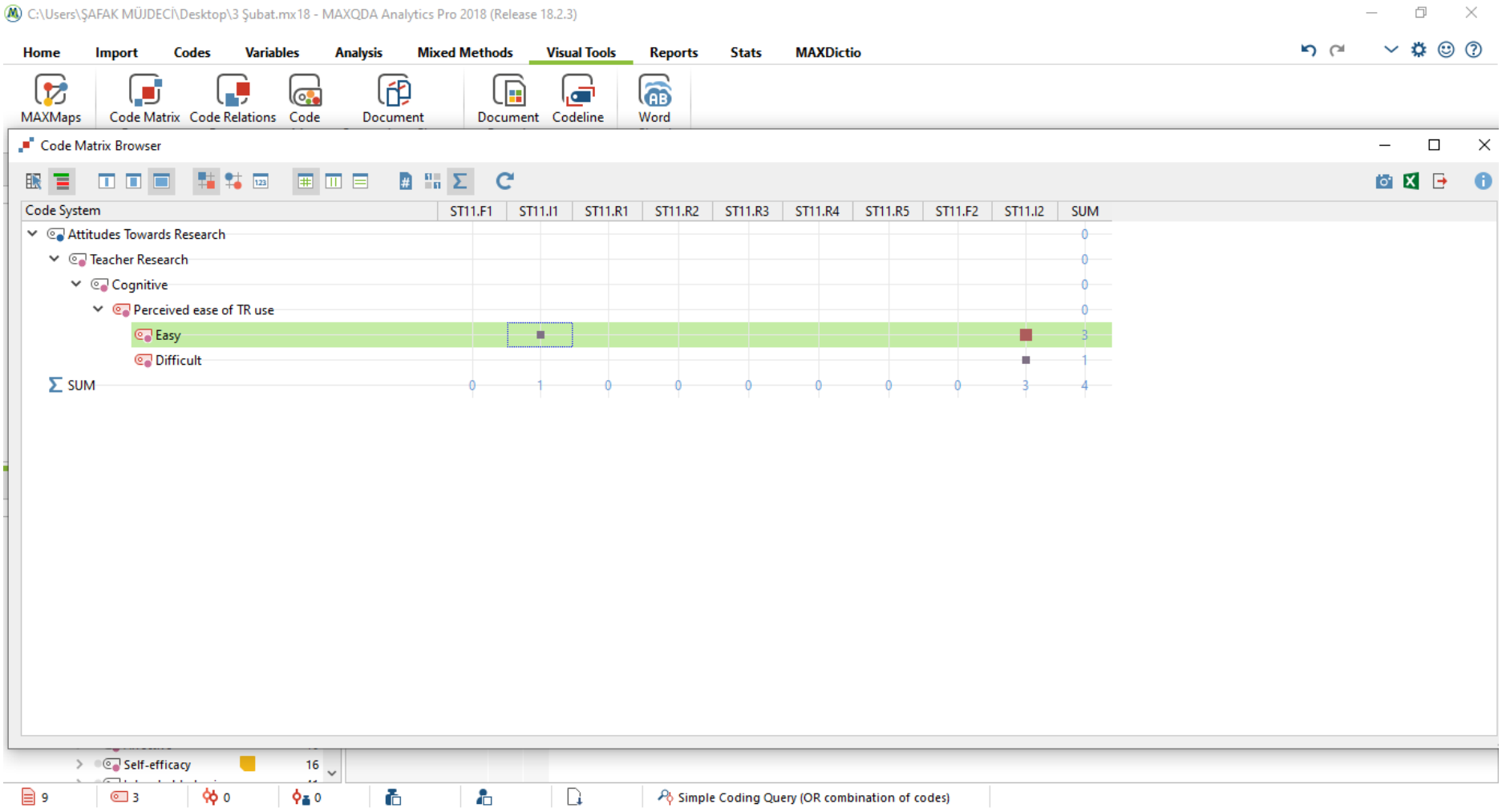
APPENDIX 8. A Screenshot For MAXQDA Layout



APPENDIX 9. A Screenshot For MAXQDA Code System



APPENDIX 10. A Screenshot For MAXQDA Code Matrix Browser



APPENDIX 11. The STRM Syllabus

Aim of the STRM:

The aim of this module is to help student-teachers develop as teacher- researchers by conducting student teacher research in their practicum context. During the process, participants' awareness about teacher research is raised, and they are provided guidance during their student teacher research engagement.

Objectives of the STRM:

Student-teachers will be able to;

- understand the nature of teacher-research
- understand the significance of teacher-research
- identify possible research project topics in the practicum context
- plan a small-scale research project
- do a literature review about the topic selected
- learn how to ask research questions
- learn about data collection tools
- collect data
- analyze data
- evaluate the results
- disseminate their research projects

Materials

Burns, A. (2009). *Doing action research in English language teaching: A guide for practitioners*. UK: Routledge.

Borg, S. (2013). *Teacher research in language teaching: A critical analysis*. Cambridge: Cambridge University Press

Lankshear, C. and Knobel, M. (2004). A Handbook for Teacher Research. Open University Press.

BA Teacher Research Projects

IATEFL Research Sig Publications

APPENDIX 12. A Summary of The Implementation Process

Week	**Steps**	**Materials for Input**	**In-class**	**Assignments**		**Data Collection Process**
				Project Assignments (PA)	Reflective Journal Assignments (RJA)	
1	Introduction to the Module and Data Collection				Essays on classroom observations	The questionnaire for conceptions of research
2-3	Data Collection					Follow-up Interviews and Pre- Interviews
4	Session 1: Introduction to Teacher Research Planning: Finding a topic	An Introduction to Teacher Research (Lankshear & Knobel, 2004; Chapter 1) Doing Action Research in English Language Teaching (Burns, 2009; Chapter 2) Teacher Research in Language Teaching: A Critical Analysis (Borg, 2013)	Workshop	PA1 (Finding a broad topic area)	RJA 1	Reflective journals

5	Session 2: Research Questions Data Collection Tools	Doing Action Research in English Language Teaching (Burns, 2009; Chapter 2 and 3)	Feedback on a broad topic area, Workshop	PA2 (Research Project Proposals)		
6	Session 3: Evaluation of proposals		Feedback for proposals	Revised proposals Preparing/Choosing Data Collection Tools	RJA 2	Reflective journals
7	Individual meetings		Guidance for data collection tools	PA3 (Data collection tools)		
8	Session 4: Evaluation of data collection tools		Feedback for data collection tools	Revised tools	RJA 3	Reflective journals
9,10	Individual meetings		Guidance for data analysis	Data collection and analysis PA4 (Data analysis)	RJA 4	Reflective journals
11	Session 5: Evaluating and disseminating					
12	Student Teacher Research Conference			PA5 (Research reports and presentations)	RJA 5	Reflective journals
13	Data Collection					The questionnaire for conceptions of research and

						follow-up interviews
14	Data Collection					Post-interviews



GAZİLİ OLMAK AYRICALIKTIR…