THE EFFECT OF A RESEARCH METHODS COURSE ON THE ATTITUDES TOWARDS RESEARCH AMONG PRE-SERVICE ENGLISH TEACHERS

ARAŞTIRMA YÖNTEMLERI DERSININ İNGILIZCE ÖĞRETMEN ADAYLARININ ARAŞTIRMA TUTUMLARI ÜZERINDEKI ETKISI

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Özet: Araştırma becerileri öğretmen eğitiminin bileşenlerinden biri olarak görülmektedir. Ancak, araştırma yöntemlerinin öğretilmesi ve öğretim pratiklerinin araştırma tutumu üzerindeki etkileri öğretmen eğitiminin az çalışılan alanları arasındadır. Bu nedenle, bu çalışma Türkiye'de bir devlet üniversitenin İngilizce Öğretmenliği bölümünün ikinci yılında zorunlu olarak verilen bir araştırma yöntemleri dersinin etkilerini değerlendirmeyi amaçlamaktadır. Dersin araştırma tutumlarını etkileme biçimlerini ve 46 adet ikinci sınıf İngilizce Öğretmenliği öğrencisi tarafından nasıl algılandığını incelemek amacıyla gömülü karma desen kullanılmıştır. Araştırmaya yönelik tutumların dersin öncesinde ve sonrasında ölçülmesi için psikometrik bir ölçekten yararlanılmıştır. Öğrencilerin dersi değerlendirmesi için ise açık uçlu bir anket kullanılmıştır. Sonuçlar, dersin sonunda öğrencilerin araştırma tutumlarında azalma olduğunu göstermektedir. Çalışmanın bulguları, araştırmaya karşı olumlu tutum geliştirilebilmesi için ders saatinin artırılması ve ev ödevlerinin azaltılması gerekliliğini ortaya çıkarmıştır.

Anahtar Sözcükler: *Araştırma Tutumu, İngilizce Öğretmen Adayları, Araştırma Öğretimi, Öğretmen Eğitimi*

Abstract: Research skills are considered to be an integral part of teacher education. However, how to teach research and how teaching practices influence attitudes towards research are underresearched areas within the field of teacher education. Therefore, this study aimed to evaluate the effects of a compulsory research methods course given in the second year of an English Language Teaching (ELT) department at a public university in Turkey. An embedded mixed methods design was used to find out how the course influenced research attitudes and how it was perceived by 46 2nd year undergraduate students of ELT. A psychometric scale was used to measure attitudes towards research before and after the course. An open-ended questionnaire was also utilized for the evaluation of the course by the participants. The results indicated a decreasing trend in the attitudes towards research. The findings imply that increasing the course hours and decreasing the number of take-home tasks are needed for more positive attitudes towards research among the participants.

Keywords: *Attitudes Towards Research, Pre-Service English Teachers, Teaching Research, Teacher Education*

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Introduction

Teacher education is a crucial component of education in all levels and contexts due to its high societal impact. In the last 40 years, several teacher education models have been proposed. According to Wallace (1991), teacher education models can be investigated in four categories as craft/apprenticeship, applied science, reflective and competency-based models. The craft/apprenticeship model proposes that pre-service teachers collaborate with in-service teachers and acquire experiential knowledge from them (Hordern, 2015). The applied science model, which is still the most common model in use (Baharona, 2018), is based on teaching pre-service teachers educational theory and argues for the application of theory in practice. In the reflective model, evaluation and reflection of practice by student-teachers through their knowledge is suggested as a means to their professional development (Schön, 1983). Lastly, the competency-based model attempts to identify the required competencies for teachers and aims for the education of teachers through their assessment in terms of those competencies.

The Role of Research in Teacher Education

In addition to experiential knowledge, educational theory and the required competencies, research skills play an important role in the education of teachers and many teacher education programs have research skills components in North America and Europe (Darling-Hammond, 2017). According to Darling-Hammond and Bransford (2005), research skills are necessary for teachers in order to have a clearer grasp of learners, learning differences and the differences resulting from varying cultures. Henson (2001) states that participating in research projects influences teaching efficacy among student-teachers positively. In addition to the applied science model of teacher education, which is heavily based on research findings, the reflective model also argues for the necessity of a critical form of research in teacher education, namely action research, for professional development and an understanding of a teacher's knowledge base. (Burns, 2009; Kitchen & Jeurisen, 2004). Furthermore, action research is thought to enable teachers and student-teachers to develop problem-solving skills (Hadley, 2003) and personal theories regarding practices (Golombek, 1998) while closing the gap between theory and practice (Sayer, 2005). According to Lankshear and Knobel (2004), just like lawyers and doctors who conduct and make use of research to improve their practices, teachers can also benefit from research to develop a professional approach towards educational problems.

In line with the importance of research skills for pre-service teachers and the prevalence of the applied science model, research-based teacher education has started to gain momentum in the last decades. According to Jyrhämä, Kynäslahti and Krokfors (2008), research-based teacher education programs typically have a major subject and are supported by methodological studies with a focus on relating theory with practice. The aim of research-based teacher education is to

train teachers who are autonomous with an inquiring attitude towards educational problem-solving instead of creating teacher-researchers (Tomm et al., 2010).

The rationale behind the need for a research-based understanding of teacher education is ingrained in the benefits of research for teachers. According to Darling-Hammond (2017) and Zeichner (2010), research skills provide teachers with autonomy, theory-based decision-making processes and a sense of integrating research findings and practice. Greiff et al. (2014) argue that research skills are needed by student-teachers for the development of active learning, critical reflection and problem-solving skills. Moreover, Niemi and Nevgi (2014) state that research helps teachers to revise their curricula and teaching approaches by taking them from the receiving end of knowledge to becoming creators of it.

Regarding teaching research skills to pre-service teachers, studies in the literature appear to be quite scarce, however, Var der Linden, Bakx, Ros, Beijaard and Van den Bergh (2015) argue that pre-service teachers should know about the goals and benefits of research, topics that are suitable to them, processes involved in research, reporting conventions of research and quality criteria for research to conduct and utilize research in their teaching. However, possessing good knowledge on all these is not a simple endeavour. For this reason, Afdal and Spernes (2018) warn that spreading research education over time, preferably to different courses, can be beneficial for student-teachers due to the overwhelming content surrounding research skills.

As seen in the relevant literature, research is an integral component of teacher education in terms of directing its models and providing pre-service teachers with practical and crucial benefits such as critical thinking, problem solving and theory-based decision making. However, the question of 'how' in teaching research skills to pre-service teachers seems to have been largely left unanswered except for a few studies in the literature.

Pre-Service Teachers' Attitudes Towards Research

Attitudes towards a phenomenon frame people's perception of the world and has observable implications regarding behaviour (Albarracín, Wang, Li & Noguchi, 2008). They are ingrained in beliefs (Rokeach, 1969) and beliefs are stronger predictors of human behaviour (Pajares, 1992), making the study of attitudes crucial in all fields of science that focus on human behaviour. In regards to teacher education, beliefs influence the decision-making and strategy-development processes in teaching (Rubie-Davis, 2015). Given that research skills equip pre-service teachers with critical thinking, theory-based decision-making and problem-solving skills, their attitudes towards research may also have outcomes related to their teaching and using research for teaching (Van der Linden, Bakx, Ros, Beijaard & Van den Bergh, 2015).

In the literature, the essential problem with pre-service teachers' attitudes towards research seems to be that they are mainly negative due to research anxiety as a result of feeling overwhelmed by research methods courses (Earley, 2014). According to Laher, Israel and Pitman (2007),

quantitative components of research is especially anxiety-provoking for student-teachers and research anxiety should be alleviated for positive outcomes in teaching and learning research.

Even though the studies focusing on attitude towards research among pre-service teachers appear to be scarce, it is possible to come across with some studies with practical implications. Descriptive studies show that attitudes towards research tend to be more positive among those who have research experience and intrinsic motivation towards research (Guilbert, Lane & Van Bergen, 2015) in addition to male student-teachers and those who have taken a research methods course (Yaşar-Ekici, 2017). Contrarily, Karakaş, Toksöz and Toksöz (2017) conclude that male and female students as well as those who have and have not taken a research methods course do not have any difference in terms of experiencing difficulties in research paper writing. However, in their study, perceived L2 writing proficiency was seen to influence the difficulties experienced during research writing. Smith and Sela (2005) confirm others in that teaching action research to pre-service teachers improve both attitudes towards research and research skills. Lombard and Kloppers (2015) also find that a compulsory research methods course with a pair-work component equips student-teachers with the required research skills, making them less anxious and more confident in conducting research. However, their findings fail to discover positive effects of the course on critical thinking skills. In a distance education institution, Schulze (2009) finds that teaching research through blended learning, providing appropriate models, giving student-teachers chances for practice, group discussions, team work, positive reinforcement and helping them understand that all research has flaws and limitations result in more positive attitudes towards research. Sever, Öncül and Ersoy (2019) find that flipped learning among pre-service teachers result in negative attitudes towards research and suggest more feedback, smaller classes and detailed instructions along with a reduced amount of theoretical knowledge for research methods courses. In brief, studies seem to suggest that providing student-teachers with research experience through pair and team work, providing good models of research and researcher and consistent feedback may develop positive attitudes towards research.

Considering all the suggestions and findings regarding research-based teacher education and attitudes towards research, it seems plausible that pre-service teachers should be equipped with research skills to help them be involved in informed problem-solving activities in their professional life and their attitudes play a crucial role in their involvement in research. Moreover, it can be understood from research findings that collaborative tasks, modelling and feedback improve attitudes towards research. However, none of the studies in the literature seem to propose an applicable guideline for teaching research skills and its effects on attitudes towards research. This study attempts to address this gap in the literature.

The Context

In Turkey, faculties of education, which aim to train teachers of various fields, are regulated by the Higher Education Council (HEC) in cooperation with the Ministry of National Education. In this respect, it is seen in the policies of HEC (2007) and the National Committee for Teacher

Training (1997) that the scope of classroom research is aimed to be extended in a manner that would focus on problem-solving, project development and research practices as a part of teacher education. In accordance with this policy, all departments in the faculties of education have a two-hour compulsory Scientific Research Methods course, which is typically given in the fourth semester. Even though the particular aims of the course may depend on the university it is taught at, the general aim of the course is to teach the basic concepts and methods in research, including action research, in terms of both theory and practice. The course continues for a whole semester, meaning that 24 classroom hours of instruction take place. In the research context, assessment is done by means of a mid-term (30%) and final (70%) exam, however, it is common practice to allocate a certain percentage for a descriptive educational research study as an article or poster presentation to be handed at the end of the semester.

Purpose and Research Questions

In line with the research context and available literature, this study aimed to reveal if the two-hour compulsory Scientific Research Methods course had any effect on the research attitudes of 2nd year English Language Teaching (ELT) students at a public university in Edirne, Turkey. Secondly, the study aimed to find out the perceptions and suggestions of the students regarding course content and conduct. Therefore, the following research questions were developed:

RQ1. Does the Scientific Research Methods course have any effect on the research attitudes of 2nd year ELT students?

RQ2. How do the 2nd year ELT students perceive the effect of the Scientific Research Methods course on their attitudes towards research?

RQ3. How do the 2nd year ELT students perceive the Scientific Research Methods course?

Methodology

The study was designed as an embedded mixed-methods study. According to Creswell (2014), embedded mixed-methods designs are typically used in educational intervention studies and include the collection of both quantitative and qualitative data to understand learner experiences in an educational program. Since the present study aimed to find out the effects of the Scientific Research Methods course, which can be considered an educational intervention, on research attitudes and understand learner perceptions, an embedded mixed method design was considered to meet the aims of the study.

Participants

The participants of the study were 46 students of ELT who volunteered to participate. The ages of the participants ranged from 19 to 26 with a mean age of 20.64 (SD = 1.35). 28 participants were female (60.9%) and 18 of them were male (39.1%). The participants were also asked to report

their perceived proficiency levels in using computers, internet research, maths and English writing skills since these variables had potential to interact with research skills. The responses of the participants were as follows:

Table 1.

Perceived Levels of the Participants in Research-Related Skills

Level	Using Computers		Internet Research		Maths		Writing in English	
	f	%	*f*	%	*f*	%	*f*	%
Very Strong	7	15.20	7	15.20	0	0.00	4	8.70
Strong	10	21.70	16	34.80	2	4.30	15	32.60
Mediocre	22	47.80	19	41.30	10	21.70	22	47.80
Weak	7	15.20	4	8.70	19	41.30	5	10.90
Very Weak	0	0.00	0	0.00	15	32.60	0	0.00

As seen in the table, the responses of most participants in computer, internet research and English writing skills clustered around ‘Mediocre’ and ‘Strong’. However, the majority of the participants evaluated their maths skills to be either ‘Weak’ or ‘Very Weak’.

The Scientific Research Methods Course

The course was designed with a top-down approach, using a published educational research article written by the teacher-researcher and a co-author as its departure point. An article written by the teacher-research was chosen to study in order to ease the familiarization of the students with the article. The aim of using the article was to have the students closely read the article part by part while providing them with the essential theoretical knowledge that surrounded the part in focus. The first two weeks of the 14-week course (4 hours) were allocated for an introduction to the course and research ethics. Then, two weeks (4 hours) were spent investigating the introduction part of the article to work on problem statement, literature review, purpose, research questions and research methods in relation to questions. The methodology section was scrutinized for three weeks (6 hours) with a focus on research design, participants, sampling, data collection, data analysis, validity and reliability. After the two-week midterm exams period, qualitative data analysis was also studied for one week (2 hours). The findings section was given one week (2 hours) with a focus on the tabulation and interpretation of findings. Two weeks (4 hours) were allocated for the discussion and conclusion to focus on summarizing research, discussing findings, presenting limitations and drawing implications. The last week (2 hours) of the course was spared for individual feedback and questions regarding the ongoing term papers or the final exam.

The main course material was the research article investigated in the classroom. However, an Edmodo class was also used to supplement learning with audio-visual materials and relevant instructional videos found on YouTube were occasionally shared with the students upon request. In addition to the YouTube videos, six instructional videos with a practical focus were prepared

by the teacher-researcher to help students with their tasks and term papers. The details of these videos were presented below in Table 2.

Table 2.

Video Content of the Course

Content Focus	Software Focus	Duration (min)
Arranging References	MS Word	3:03
Computing a Reliability Coefficient	www.wessa.net	3:04
Computing Frequencies and Percentages	MS Excel	4:48
Dividing Frequencies and Percentages by Genders	MS Excel	11:14
Computing Means and Standard Deviations	MS Excel	11:58
Making APA Style Tables	MS Word	5:12
TOTAL	-	39:19

As shown in the table, the video content of the course had a total duration of 39 minutes and 19 seconds and it aimed to teach students practical skills such as listing references, computing certain values and making tables with software that were easily accessible to the students. Computations were made on a sample data set created on MS Excel by the teacher-researcher with unreal data.

To equip students with practical research skills, seven tasks, a research proposal and a term paper (research article) were planned. The tasks were uploaded to the Edmodo class. The proposal and term paper were uploaded to Turnitin for plagiarism prevention. The proposal was required to be uploaded on the seventh week of the course so that the students could receive feedback and make revisions to avoid irreplaceable problems in their term papers. The deadline for the term paper was the time of the final exam. The details of the tasks carried out during the semester were shown below in Table 3.

Table 3.

Take-Home Tasks of the Course

Task	Platform	Format	Week
Writing a literature review paragraph and referencing	Edmodo	MS Word	3
Writing research questions based on aims	Edmodo	MS Word	4
Choosing a research design based on research questions	Edmodo	MS Word	5
Sampling and Data Collection Quiz	Edmodo	Edmodo Quiz	6
Computing Reliability and Analysing Data	Edmodo	MS Excel	7
Making APA style tables and interpreting them	Edmodo	MS Word	11
Writing a discussion paragraph	Edmodo	MS Word	12

The tasks aimed to familiarize the students with data analysis and reporting environments. For this reason, they were based on practicing parts of a research study on hypothetical aims or scenarios and analysing artificial data. The videos related to each task as described in Table 2

were also shared to model how to complete the tasks. Each student received individual feedback from the teacher-researcher regarding how they performed.

As mentioned above, the term paper for the course was initially submitted as a research proposal on Turnitin. Upon receiving feedback and making necessary revisions, students were required to collect data, analyse them and finish their reports by the time of the final exam. The paper was required to be a full-length descriptive research article written in groups of two to allow students share the workload and learn from one another.

The exams of the course were also based on the practical use of research skills, giving test takers a research problem and asking them to design a research study indicating the aim, research questions, research design, sampling, data collection and data analysis techniques. In addition to designing a research, a research question was given in the exams and the test takers were asked to identify and categorize the variables in the question.

For the tabulated version of the course content and tasks, please see Appendix A.

Data Collection

To measure the participants' attitude towards research, the Attitude Towards Research Scale (ATRS), developed and validated by Papanastasiou (2005), was used. The scale is a 32-item, five-factor, seven-point rating scale which aims to measure attitude towards research. The factors of the scale measure usefulness of research for profession, research anxiety, positive attitudes towards research, relevance of research to life and research difficulty. According to its developer, ATRS is valid and reliable, producing Cronbach's Alpha coefficients between .71 and .93 for its factors and .95 for the whole scale. The scale also produced acceptable to excellent reliability coefficients (Taber, 2016) for both pre and post tests as shown below in Table 4.

Table 4.

Reliability Coefficients

Factor	$\alpha_{Pretest}$	$\alpha_{Posttest}$
ATRS (Whole)	.92	.96
Usefulness for Profession	.83	.92
Research Anxiety	.88	.91
Positive Attitudes	.92	.89
Relevance to Life	.60	.57
Difficulty	.79	.64

Qualitative data collection was realized by means of an open-ended questionnaire, which were sent to participants by e-mail. 19 participants volunteered to participate in the questionnaire, which asked them to evaluate the positive and negative issues related to the course as well as if and how the course changed their attitude towards research. As the last question, the questionnaire asked the participants to suggest improvements for the course.

Quantitative measurements were performed as pre and post tests for comparison. Qualitative data was collected at the end of the semester.

Data Analysis

Before data analysis, the distribution of the variables was initially checked for normality. According to Tabachnick and Fidell (2014), skewness and kurtosis values between ±1.50 signal a normal distribution. In this respect, these values were investigated for all variables as seen in Table 5.

Table 5.

Skewness and Kurtosis Values for Variables

Factor	γ_1		γ_2	
	Pretest	Posttest	Pretest	Posttest
ATRS (Whole)	0.26	-0.33	-0.88	0.64
Usefulness for Profession	-0.34	-0.85	-0.34	0.87
Research Anxiety	0.16	-0.05	-0.70	-0.28
Positive Attitudes	-0.19	0.27	-0.60	-0.23
Relevance to Life	0.27	-0.25	-0.64	-0.07
Difficulty	-0.07	0.15	-0.28	-0.13

As seen in the table, all skewness and kurtosis values were within the range of ±1.00, indicating normal distributions. For this reason, the pre and post test results were compared by means of paired samples t-tests.

The qualitative data were coded by the researcher according to the themes and topics of the responses. These findings were reported as frequencies.

Findings

Before the parametric analyses, descriptive values regarding the participants' attitudes towards research were computed to see their levels. The findings were tabulated below.

Table 6.

Descriptive Statistics of ATRS and its Subscales

Factor	*M*		*SD*		*Min*		*Max*	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
ATRS (Whole)	4.95	4.60	0.76	1.11	3.76	1.44	6.44	6.78
Usefulness for Profession	5.73	5.53	0.78	1.11	3.89	2.44	7.00	7.00
Research Anxiety	4.34	3.94	1.26	1.38	2.14	1.00	7.00	7.00
Positive Attitudes	5.05	4.67	1.07	1.41	2.50	1.13	7.00	7.00
Relevance to Life	5.05	4.54	0.96	1.38	3.25	1.00	7.00	7.00
Difficulty	4.20	3.79	1.26	1.31	1.67	1.00	6.67	7.00

As shown in Table 6, ATRS mean was computed to be 4.95 (*SD* = 0.76) in the pretest and 4.60 (*SD* = 1.11) in the posttest. The usefulness of research for profession subscale was seen to have a mean of 5.73 (*SD* = 0.78) in the pretest and 5.53 (*SD* = 1.11) in the posttest. Research anxiety was 4.34 (*SD* = 1.26) in the pretest and 3.94 (*SD* = 1.38) in the posttest. The pretest mean of positive attitudes towards research was 5.05 (*SD* = 1.07) and the posttest mean of the same subscale was 4.67 (*SD* = 1.41). Relevance of research to life had a mean of 5.05 (*SD* = 0.96) in the pretest and 4.54 (*SD* = 1.38) in the posttest. Lastly, research difficulty subscale had a mean of 4.20 (*SD* = 1.26) in the pretest and 3.79 (*SD* = 1.31) in the posttest. According to the descriptive results, all the posttest means of ATRS and its subscales were lower than the pretest means.

The first research question aimed to reveal if the Scientific Research Methods course had any effect on the research attitudes of the participants. The quantitative findings of the paired samples t-test were given below in Table 7.

Table 7.

Paired Samples T-Test Results (N = 46)

Construct	*M*	*SD*	*t*	*df*	*p*	*d*
$ATRS_{Pretest}$	4.95	0.76	2.29	45	**.01**	0.43
$ATRS_{Posttest}$	4.60	1.11				
Usefulness for $Profession_{Pretest}$	5.73	0.78	1.39	45	.17	0.21
Usefulness for $Profession_{Posttest}$	5.53	1.11				
Research $Anxiety_{Pretest}$	4.34	1.26	1.89	45	.07	0.28
Research $Anxiety_{Posttest}$	3.94	1.38				
Positive $Attitudes_{Pretest}$	5.05	1.07	2.51	45	**.02**	0.37
Positive $Attitudes_{Posttest}$	4.67	1.41				
$Relevance_{Pretest}$	5.05	0.96	2.93	45	**.01**	0.43
$Relevance_{Posttest}$	4.54	1.38				
$Difficulty_{Pretest}$	4.20	1.26	1.96	45	.06	0.29
$Difficulty_{Posttest}$	3.79	1.31				

According to the t-test results, the mean values for ATRS, positive attitudes towards research and relevance of research to life significantly decreased at the end of the course. The mean ATRS score was reduced to 4.60 (*SD* = 1.11) from 4.95 (*SD* = 0.76) ($t = 2.29$, $df = 45$, $p = .01$, $d = 0.43$). In the subscales, positive attitudes towards research diminished from 5.05 (*SD* = 1.07) to 4.67 (*SD* = 1.41) ($t = 2.51$, $df = 45$, $p < .05$, $d = 0.37$) and relevance of research to life lowered from 5.05 (*SD* = 0.96) to 4.54 (*SD* = 1.38) ($t = 2.93$, $df = 45$, $p = .01$, $d = 0.43$). The changes in the usefulness of research for profession ($t = 1.39$, $df = 45$, $p > .05$, $d = 0.21$), research anxiety ($t = 1.89$, $df = 45$, $p > .05$, $d = 0.28$) and research difficulty ($t = 1.96$, $df = 45$, $p > .05$, $d = 0.29$) subscales were not statistically significant. All the changes in the mean values for ATRS and its subscales produced small effect sizes.

In the open-ended questionnaires, the participants were also asked if their attitude towards research underwent a change in any direction since it was the aim of the second research question. The qualitative findings were presented below in Table 8.

Table 8.

Perceived effects of the course on attitudes towards research

Effect	Reason	Participants
Positive	Knowledge about research	P2, P4, P6, P7, P10, P11, P13, P16, P17, P19
	Reduced research anxiety	P9, P18
	Useful for profession	P3
	Not difficult	P5
	Increased research self-efficacy	P12
	Writing the term paper	P14
Negative	Too difficult	P1, P8
No effect	No effect	P15

Qualitative analysis showed that the majority of the participants who filled the open-ended questionnaire believed that a positive change occurred in their attitudes towards research as a result of the Scientific Research Methods course. P6 explained the positive change through the content of the course which had the students go through a full-length article part by part by saying:

> I have been interested in research before but thanks to this course, positive changes occurred. I have learned how to arrange [a research article] and how its content should be. I have learned which sections should include what and where exactly to search what I need. (P6)

On the same issue, P16 indicated a perceived increase in knowledge about research due to the tasks involved in the course. The remarks of P16 were as follows:

> I had been distant to research and was inexperienced in it but after this course and the tasks our professor gave us, I started to enjoy research. (P16)

There were also a few participants who perceived a negative change in their attitudes towards research. P8 commented on the difficulty of the course but acknowledged its importance at the same time with the following words:

> The course made a negative change [in attitudes towards research]. We experienced excessive difficulty and there were still friends who did not know what we were doing at the end of the semester. However, since the course is quite wide in content and important from an academic perspective, I believe I should pay more attention and fill in the gaps in my knowledge in the following years. (P8)

Analysis also showed that one participant perceived no effect of the course on attitudes towards research.

The third research question aimed to reveal the perceptions of the participants regarding the positive and negative issues surrounding the course along with the suggestions for improving it. The issues perceived positively were shown below in Table 9.

Table 9.

Positively-Perceived Issues about the Course

Topics	Participants
Course conduct	P8, P9, P11, P12, P13, P14, P17, P19
Academic contribution	P1, P2, P8, P16, P18
Learning research processes	P4, P5, P6, P8
Course instructor	P9, P17
Increased motivation	P3
Writing a full-length article	P7
Educational research as sample	P10
No positives	P15

The most frequently mentioned topic among the positive aspects of the course were course conduct, academic contribution of the course and learning about the processes involved in research. P9 briefly praised the course conduct with a focus on the sample research paper by saying "The conduct of the course was very good. Learning would not have been consistent like now if solely information had been passed without examples" (P9). P11 expressed approval of electronic platforms used throughout the course, namely Edmodo and Turnitin, by saying "[The positive aspects were] the convenient transmission of knowledge and the support we could receive in electronic platforms" (P11).

The contribution of the course in academic terms was also praised by a few participants. On this issue, P16 seemed to believe that the course contributed to their prospective graduate studies by commenting as "[Thanks to the course], the students who would continue their studies on the graduate level learn about the [research] issue and [the course] pave the way [for graduate studies]" (P16).

Learning about the processes involved in research was also among the positive aspects of the course for a few participants. P8 praised this issue by stating "It [the course] had a very comprehensive content. We have seen and tired all the components that should be in a research article from a universal perspective. In this respect, it was a very informative course" (P8).

In addition to the frequently mention positive aspects of the course, the course instructor, an increased level of motivation, writing a full-length research article and using an educational

research sample were mentioned by one participant each. Lastly, one participant stated to have experienced no positive aspect of the course.

The negatively-perceived issues about the course were tabulated below in Table 10.

Table 10.

Negatively-Perceived Issues about the Course

Topics	Participants
Overwhelming content	P8, P13, P15, P18
No negatives	P11, P12, P14, P17
Limited class hours	P3, P6, P10
Writing a full-length article	P5, P16, P19
Classroom	P7, P9
High workload	P2
Lack of interest	P1
Number of tasks	P4

The most frequently mentioned negative issues regarding the course were its overwhelming content, limited class hours and having to write a full-length research article. The content of the course was criticized by P8 for being too demanding by saying "The course is compelling in regards to content and it has a structure that is cognitively demanding" (P8). P18 denounced the abundance of unfamiliar terminology surrounding the course by stating "As for the negatives, there are too many terms and it is a bit difficult to understand them all" (P18).

Limited class hours were also criticized by some participants. On this issue, P10 commented that the class hours were not enough and said "There was nothing negative [about the course] but I would have wanted to take this course in two semesters because it is very comprehensive and detailed" (P10).

Writing a full-length article were disparaged by a few participants. P16 emphasizes the negative outcomes of asking students to write a research article by stating "Tasks and writing an article looked a bit challenging and difficult. This causes bias among students" (P16).

Other topics among the negatively perceived issues were reported to be the classroom, the high level of workload throughout the course, a personal lack of interest and the large number of tasks throughout the semester.

Four participants stated that there was nothing negative regarding the course.

The suggestions of the participants to improve the course in general were presented in Table 11.

Table 11.

Suggestions for Improving the Course

Topics	Participants
No suggestions	P11, P12, P14, P15, P17
Increasing class hours	P2, P3, P8, P10
Changing classroom	P7, P9
Increasing reading resources	P13, P16
Active learning	P1, P18
Fewer tasks	P4
Theoretical exams	P5
Submitting term paper part by part	P19
More maths in content	P6

As seen in the table, increasing class hours, changing the classroom and increasing the amount of reading resources were suggested by the majority of the participants. Increasing class hours was explained in a learner-friendly manner by P8 who commented as "Instead of fitting the course into one semester, dividing it into two semesters should reduce the mental pressure on the students" (P8). Changing the classroom was suggested by P7, who stated that "it may be better if the course is taken to a lecture theatre or a more spacious classroom" (P7). P13 suggested increasing the amount of reading resources by stating "more articles can be analysed" (P13).

Apart from the frequently suggested improvements, keeping students more active, giving them fewer tasks, increasing the theoretical focus of the exams, submitting the term paper part by part over weeks and including more maths in the course were suggested by the participants.

Five participants made no suggestions to improve the course.

Discussion and Conclusion

This study aimed to find out if a two-hour compulsory Scientific Research Methods course had any effect on the attitudes towards research among 2nd year ELT students in Edirne, Turkey. The second purpose of the study was to reveal the evaluations of the participants regarding the course. The findings showed that the attitudes towards research among the participants changed towards the negative at the end of the course. Perceptions regarding the usefulness of research in teaching profession, research anxiety and the difficulty of conducting research did not change as a result of the course. However, positive attitudes towards research and the perceived relevance of research to life was observed to decline at the end of the course. Contrarily, open-ended questionnaires revealed that most participants perceived a positive change in their attitudes towards research due to the increased knowledge about research and reduced research anxiety. While course conduct and the contribution of the course to academic studies were praised, the overwhelming nature of the course content, the limited number of class hours and having to write a full-length article

were criticized by the participants. Regarding the negatives, participants suggested increasing the class hours and receiving lectures in a different classroom.

The findings were parallel to those of Sever, Öncül and Ersoy (2019) in that their study indicated a decrease in the attitudes towards research among pre-service teachers as a result of teaching research through flipped learning. Even though the present study did not make use of the same teaching method, the attitudes towards research seemed to decline, too. As Sever, Öncül and Ersoy also suggest, the reason behind the decrease may be the large number of different tasks embedded in the course. The high frequency of different tasks may have demotivated the participants, and considering the relationship between motivation and attitude (Jain & Sidhu, 2013), this demotivation may have resulted in the decrease in attitude towards research among the participants.

The decline was actually unexpected since the teaching methodology in the study consisted of all the components suggested by Lombard and Kloppers (2015) and Schulze (2009), which were blended learning, modelling, chance for practice, discussion, pair/team work and reinforcement. Moreover, the fifth week of the course included action research, which was expected to contribute to positive attitudes as suggested by Smith and Sela (2005). However, the overwhelming content (Earley, 2014), the lack of research experience (Guilbert, Lane & Van Bergen, 2015) and the quantitative component of the course (Laher et al., 2007) may have reduced the level of positive attitude towards research among participants.

Qualitative findings contradicted their quantitative counterparts in that most participants reported a positive change in their attitudes towards research since they experienced a perceived increase in their knowledge about research and decrease in their research anxiety. A plausible explanation seems to be that the participants found research difficult and irrelevant to the teaching profession after learning the processes involved in it, therefore, their attitudes followed a decreasing trend throughout the semester. However, the teaching/learning context may have been perceived positively and this may have reduced research anxiety to some extent (Earley, 2014; Laher et al., 2007), resulting in the positive responses to the open-ended questions. Since the attitude scale used in the study had no references to teaching/learning research skills, it was unable to measure the positive changes undergone by the participants as a result of the learning experience.

The positive aspects of the course according to the participants were the course conduct, the academic contribution of the course, learning research processes and the course instructor. In relation to this, the argument presented in regards to the contradiction between qualitative and quantitative findings seems to be a valid one because all the positive issues mentioned by the participants are actually related to the teaching/learning context. Apparently, even though the participants' attitudes towards research changed towards the negative as a result of the course, they seem to have enjoyed the learning context surrounding the course. Considering that learning context may affect learner attitudes (Johnsson, 2013), contextual factors may, indeed, have accounted for the positive responses in the open-ended questions.

The negative issues as perceived by the participants regarding the course was its overwhelming content, limited class hours, having to write a research article and the classroom. It seems that the negative aspects of the course as perceived by the participants are all interrelated. Due to the limited class hours, the participants may have felt overwhelmed by the content that needed to be covered (Earley, 2014). As a result, writing a successful and full-length research article may have been perceived as an anxiety-provoking task due to the participants' inexperience in research (Guilbert, Lane & Van Bergen, 2015). The suggestions of the participants to improve these negative issues were to increase the class hours, change the classroom and increase the reading content of the course.

When interpreted altogether, it appears that the massive content of the Scientific Research Methods course including the large number of tasks given throughout the course may have negative effects on student-teachers' attitudes towards research. Nonetheless, the teaching/learning context of the study seems to be perceived positively. Since student-teachers are introduced to the concept of research for the first time in their lives, I believe it is crucial to improve their attitudes towards research, therefore, precautions should be taken to avoid the attitudinal decrease resulting from the course.

Indeed, research is an immense endeavour on which hundreds of books are written and a two-hour compulsory course is obviously not sufficient to cover all the content that is within the domain of research methods. In this respect, the findings of the present study confirm a practical need to increase the teaching hours of the Scientific Research Methods course, which is suggested both by research (e.g. Afdal & Spernes, 2018) and the comments of the participants.

The general workload of the course (tasks, research proposal, research article etc.) appears to be among the factors which contribute to negative feelings towards research. For this reason, it should be ascertained that the number and content of the tasks as a part of the course be manageable by students, since the opposite case may provoke anxiety and reduce positive attitude towards research. Lowering the number of tasks and increasing the number of students per term paper may serve as a solution at this point by reducing workload stress.

Another way to develop positive attitudes towards research among pre-service English teachers can be to spread research to the other courses, too. In the current case of the Turkish teacher education context, Scientific Research Methods is a 2nd year course, however, in the third and fourth years, student-teachers virtually never need to conduct research unless they take an elective Classroom Research course in their last year, which is not given by all universities. Since the literature suggests that teaching research serves to train autonomous and theory-based decision makers as teachers (Darling-Hammond, 2017; Zeichner, 2010), more opportunities for research can be given to student-teachers as term papers in other courses, too. This would also avoid the marginalization of the Scientific Research Methods course as a standalone course that would never be needed again once passed.

It should be noted that the study is limited to a pre-experimental design in which there was no control group. For this reason, the external factors that may have influenced the attitudes towards research among the participants could not be controlled. A quasi or true experimental design may allow for controlling those factors, too. Moreover, the measurement instrument does not take the teaching/learning context into account, which resulted in a mismatch between quantitative and qualitative findings in this study. This may be signalling the need to develop a more specific research attitude scale to be used in educational contexts, which also takes the teaching/learning context into consideration.

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Appendix 1. Course Content

Week	Content	Topic	Task / Quiz
1	Introduction to Education Research	-	-
2	Research Ethics and Parts of a Research Paper	-	-
3	Introduction in a Research Paper	Problem Statement and Literature Review	Literature Review and Referencing Practice (Edmodo)
4	Introduction in a Research Paper	Aim, Research Questions and Research Methods&Types	Research Question Practice (Edmodo)
5	Methodology in a Research Paper	Research Design	Research Design Practice (Edmodo)
6	Methodology in a Research Paper	Participants, Sampling, Data Collection Instrument Options	Quiz (Edmodo)
7	Methodology in a Research Paper	Validity, Reliability and Data Analysis*	Reliability and Data Analysis Practice (Edmodo) – Deadline For Research Proposals (Turnitin)
8	MIDTERMS	-	-
9	MIDTERMS	-	-
10	Data Analysis	Qualitative analysis	-
11	Findings in a Research Paper	Tabulation and Interpretation of Tables**	Tabulation and Interpretation Practice (Edmodo)
12	Discussion and Conclusion in a Research Paper	Summary and Discussion	Discussion Practice (Edmodo)
13	Discussion and Conclusion in a Research Paper	Limitations and Implications	-
14	Individual Feedback on Ongoing Studies	-	-

Genişletilmiş Özet

Öğretmen adaylarının mesleki yaşamlarında ve davranışlarındaki bilinçli problem çözme aktivitelerinde yer almalarına yardımcı olmak için araştırma becerileriyle donatılmış olmaları gereklidir. Bu nedenle, araştırma becerisi öğretmen adaylarını yönlendirmek ve onlara eleştirel düşünme, problem çözme ve teoriye dayalı karar verme gibi pratik ve önemli faydalar sağlama açısından öğretmen eğitiminin ayrılmaz bir bileşenidir. Ancak, öğretmen adaylarına araştırma becerilerinin öğretilmesinde 'nasıl' sorusu, literatürdeki birkaç çalışma dışında büyük ölçüde cevapsız bırakılmış görünmektedir. Bununla birlikte, alanyazın işbirlikçi görevlerin, modellemenin ve geri bildirimin araştırmaya yönelik tutumu geliştirdiğini göstermesine karşın, çalışmaların hiçbirinin araştırma becerilerinin öğretilmesi ve öğretimin araştırmaya yönelik tutum üzerindeki etkileri konusunda kaynak teşkil etmediği anlaşılmaktadır. Bu çalışma, literatürdeki bu boşluğu gidermeyi amaçlamaktadır.

Araştırma bağlamı ve mevcut literatür doğrultusunda, bu çalışma iki saatlik zorunlu Bilimsel Araştırma Yöntemleri dersinin Edirne'deki bir devlet üniversitesinde ikinci sınıf İngiliz Dili Eğitimi öğrencilerinin araştırma tutumları üzerinde herhangi bir etkisi olup olmadığını ortaya koymayı amaçlamaktadır. İkinci olarak, çalışma öğrencilerin ders içeriği ve davranışına ilişkin algı ve önerilerini ortaya çıkarmayı amaçlamıştır. Bu nedenle, aşağıdaki araştırma soruları geliştirilmiştir:

1. Bilimsel Araştırma Yöntemleri dersinin ikinci sınıf İngilizce Öğretmenliği öğrencilerinin araştırma tutumları üzerinde bir etkisi var mıdır?

2. İkinci sınıf İngilizce Öğretmenliği öğrencileri, Bilimsel Araştırma Yöntemleri dersinin araştırmaya yönelik tutumları üzerindeki etkisini nasıl algılamaktadırlar?

3. İkinci sınıf İngilizce Öğretmenliği öğrencileri Bilimsel Araştırma Yöntemleri dersini nasıl algılamaktadırlar?

Çalışma, eğitimsel bir müdahale olarak kabul edilebilecek Bilimsel Araştırma Yöntemleri dersinin araştırma tutumu ve öğrenen algılarını anlama üzerindeki etkilerini bulmayı amaçladığı için, çalışmanın amaçlarına uygun gömülü bir karma yöntem tasarımı düşünülmüştür. Katılımcılar, yaşları 19 ve 26 arasında değişen 46 İngilizce Öğretmenliği ikinci sınıf öğrencisidir. Araştırma tutumuna yönelik veriler, ders döneminin ilk ve son haftalarında, psikometrik bir ölçek yardımıyla öntest ve sontest olarak toplanmıştır. Ayrıca, dönem sonunda gönüllü katılımcılar derse ilişkin olumlu ve olumsuz buldukları noktaları ve bunların geliştirilmesi için önerilerini isteyen açık uçlu bir ankete katılmışlardır. Psikometrik öntest ve sontest verileri ikili örneklem t-testi ile karşılaştırılmış, açık uçlu anket ise kodlama yöntemiyle içerik analizine tabi tutulmuştur.

Haftada iki saat olarak belirlenen dersin uygulaması toplam 12 hafta sürmüş, bu süre içerisinde tür temelli bir yaklaşım kullanılmıştır. Buna göre hakemli bir dergide yayınlanmış olan bir

makale dönem boyunca incelenmiş ve her hafta makalenin bölümlerine denk düşen teorik bilgi katılımcılarla paylaşılmıştır. Bunun yanında, her bölümle ilgili senaryolar oluşturulmuş ve katılımcılardan bu senaryolara ilişkin bölümleri yazması, verileri analiz etmesi ve bulguları içeren tablolar oluşturması istenmiştir. Pratik uygulamalarda süreci kolaylaştırmak için ders sorumlusu tarafından çekilen videolar katılımcılarla paylaşılmıştır.

Psikometrik bulgular, ders sonunda katılımcıların araştırma tutumlarının olumsuza doğru değiştiğini göstermektedir. Altboyutlar incelendiğinde, olumlu tutum ve araştırmanın hayatla olan ilişkisi algılarında azalma görülmüştür. Ancak, açık uçlu anket sonuçları katılımcıların araştırma tutumlarında artış algıladıklarını göstermektedir. Katılımcılar araştırma yöntemleri bilgisi edinmiş olmayı ve araştırma kaygılarının azalmasını dersin araştırma tutumu üzerindeki olumlu etkileri olarak belirtmişlerdir. Ders değerlendirmeleri ise dersin işlenişi, akademik hayata katkısı ve araştırma süreçlerinin öğrenilmesinin olumlu algınlandığını, yoğun içeriğin, sınırlı ders saatlerinin ve dönem sonunda tam bir araştırma makalesi yazılması gerekliliğinin ise olumsuz algılandığını göstermektedir. Bu olumsuzluklara ilişkin öneriler ders saatlerinin artırılması, dersin başka bir derslikte yapılması ve okuma içeriğinin artırılması şeklinde gerçekleşmiştir.

Sonuçlar bir bütün olarak ele alındığında, ders boyunca verilen çok sayıda görevi içeren araştırma yöntemleri dersinin yoğun içeriğinin, öğretmen adaylarının araştırmaya yönelik tutumlarını olumsuz yönde etkileyebileceği görülmektedir. Bununla birlikte, çalışmanın öğretme/öğrenme bağlamında olumlu algılandığı görülmektedir. Bu derste öğretmen adayları araştırma kavramıyla ilk kez tanıştıkları için, araştırmaya yönelik tutumlarını geliştirmek oldukça önemlidir. Bu nedenle, dersten kaynaklanan tutumsal azalmayı önlemek için önlemler alınmalıdır.

Araştırma, üzerine yüzlerce kitabın yazıldığı çok geniş bir konudur ve iki saatlik zorunlu bir dersin araştırma yöntemleri alanındaki tüm içeriği kapsaması mümkün değildir. Bu bağlamda, bu çalışmanın bulguları, araştırma yöntemleri dersinin öğretim saatlerini artırmak için pratik bir ihtiyacı doğrulamaktadır. Dersin genel iş yükü (ödevler, araştırma önerisi, araştırma makalesi vb.) araştırmaya yönelik olumsuz duygulara katkıda bulunan faktörler arasında görünmektedir. Bu nedenle, dersin bir parçası olan ödevlerin sayısının ve içeriğinin öğrenciler tarafından yönetilebilir şekilde düzenlenmesi gerekmektedir. Aksi takdirde kaygı düzeyi artabilir ve araştırmaya karşı olumlu tutum azalabilir. Ödev sayısının azaltılması ve dönem ödevi başına düşen öğrenci sayısının arttırılması suretiyle iş yükü stresi azaltılarak bir çözüm geliştirilebilir.

Öğretmen adayları arasında araştırmaya yönelik olumlu tutum geliştirmenin bir başka yolu da araştırmayı diğer derslere yaymak olabilir. Türkiye'de öğretmen eğitimi bağlamında mevcut durumda, araştırma yöntemleri dersi ikinci sınıfta verilmektedir. Ancak üçüncü ve dördüncü yıllarda öğrenci-öğretmenlerin neredeyse hiçbir zaman araştırma yapması gerekmemektedir. Araştırma yapmanın öğretmenin özerk ve teoriye dayalı bir karar verici olarak yetiştirilmesine hizmet ettiği düşünüldüğünde, öğretmen adaylarına araştırma yapmaları için diğer derslerde daha fazla fırsat verilebilir. Bu aynı zamanda araştırma yöntemleri dersinin bir daha ihtiyaç duyulmayan bağımsız bir ders olarak marjinalleşmesini de önleyecektir.

ETİK BEYAN: *"The Effect of a Research Methods Course on The Attitudes Towards Research Among Pre-Service English Teachers"* başlıklı çalışmanın yazım sürecinde bilimsel, etik ve alıntı kurallarına uyulmuş; toplanan veriler *üzerinde herhangi bir tahrifat yapılmamış, karşılaşılacak tüm etik ihlallerde "Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi Yayın Kurulunun" hiçbir sorumluluğunun olmadığı, tüm sorumluluğun Sorumlu Yazara ait olduğu ve bu çalışmanın herhangi başka bir akademik yayın ortamına değerlendirme için gönderilmemiş olduğunu taahhüt ederim*."