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## Impacts of Project Preparation Course for Students Studying at Postgraduate Education in the Field of Educational Sciences: A National Project Example\*

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### ABSTRACT

This research was carried out within the scope of a Scientific Educational Activities Support Project supported by TUBITAK 2237-A. The purpose of this study is to evaluate this project in the context of participants' opinions for six days of training and examination of changes in research competencies and research intended anxieties. Twenty-four students from different graduate programs participated in the research. A questionnaire was used as a tool to collect during the interview. This study was designed by a weak experimental design. The impact of the practice in this design is tested by studies performed on a single group. Three different data collection tools were used in the research. One of these tools is the interview form, and others are graded scales. Two types of data were obtained in terms of data analysis in this study. One of these is qualitative data obtained from interview forms. The other is quantitative data obtained from graded scales. As a result of the training, almost all participants stated that they would write project and they would not be undaunted before the challenges by confronting this work. Even if learning the phases of project writing was among the project's important objective, the ultimate objective is that each participant will prepare a project by creating his/her own team. For this reason, an increase in the project writing wishes of participants is an essential indicator of attaining the aim at the end of the course.

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Keywords:

Project writing, project evaluating, project

### 1. Introduction

Project is a word etymologically based on a French word of "projet" and bears the meaning of "projection, designing". This word means "a scientific study draft that has been taken into plan and program previously in different fields, of which the cost is calculated and approved by institutional and organizational management bodies to be performed on behalf of a private institution or state either in the short or long term" in Turkish (Turkish Language Association, 2020). As will be understood from this definition, projects are scientific studies designed over a projected idea, planned over a set of processes. In the literature examination performed about the project, different definitions are found in different sources. Önen, Mertoğlu, Saka and Gürdal (2010) defined the project as generating solution for any problem and presenting a product in this process by working individually or with a group. Dede and Yaman (2003) express the project studies as performing studies to

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remove the problem and obstacles and generate new knowledge in this process. According to Kubinova, Novotna, and Littler (1998), a project is defined as studies performed individually or in a group for bringing a concept or skill. Creswell (2008) defines the research projects as steps used to collect and analyse information to comprehend any problem or subject. Once these definitions are taken into consideration, a project may be defined as actions performed for generating product/products by solving any problem according to any previously designed plan at a particular time interval and with a specific cost.

It can be said based on these definitions that projects are a process presenting a concrete product or enabling new knowledge to be generated as well as a solution-generation process for any problem. Consequently, a financial gain is provided with the products presented, and the generated knowledge contributes to the literature. A state of gain, whether concrete or abstract, is a matter under all circumstances. Projects may be carried out in social, scientific, technological fields. Projects have a vital role, particularly in countries' development plans. Once our country's development plans are examined, it is addressed in all studies to be performed as from the first development plan (1963-1967) that it should be acted according to the project basis. As a justification, the importance of developing an idea and habit of working based on the project is mentioned. Thus, a contribution can be provided to the country's development (First Development Plan, 1963). As a result of these, the Scientific and Technological Research Council of Turkey (TUBITAK) is one of the important scientific research organisations founded on 24.07.1963 to support and promote scientific and technological research development projects. This organization has three fundamental missions. These are "supporting the national science, technology and innovativeness ecosystem; developing technology and services whose added value is high with the science-based technology; enabling the development of a qualified knowledge generation and qualified human resource" (TUBITAK, 2019). TUBITAK is still an active leading organisation in our country's scientific and technological development with the Ministry of Industry and Technology. Universities (Scientific Research Projects-BAP), Ministries, KOSGEB, regional development agencies, non-governmental organisations, and TUBITAK give support to the projects. There are also international supports these national supports. Among these project supports, the organisation that gives the most common and effective source ad grant for all Turkey researchers is TUBITAK. Many organisations have an active role in supporting projects, a meaningful sign addressing the importance of projects for countries and societies. This information suggests that projects and supporting projects play an essential role in the country's development. Projects supported by TUBITAK, the institution that provides the most support to researchers and academicians on scientific projects, are classified under five major headings: 1) Academic, 2) Industrial, 3) Public, 4) Scientific activity, 5) Science and Society. There are national and international support programs under each heading within this scope. Of these programs, call signs frequently resorted to educational sciences, and their descriptions are given in Figure 1.

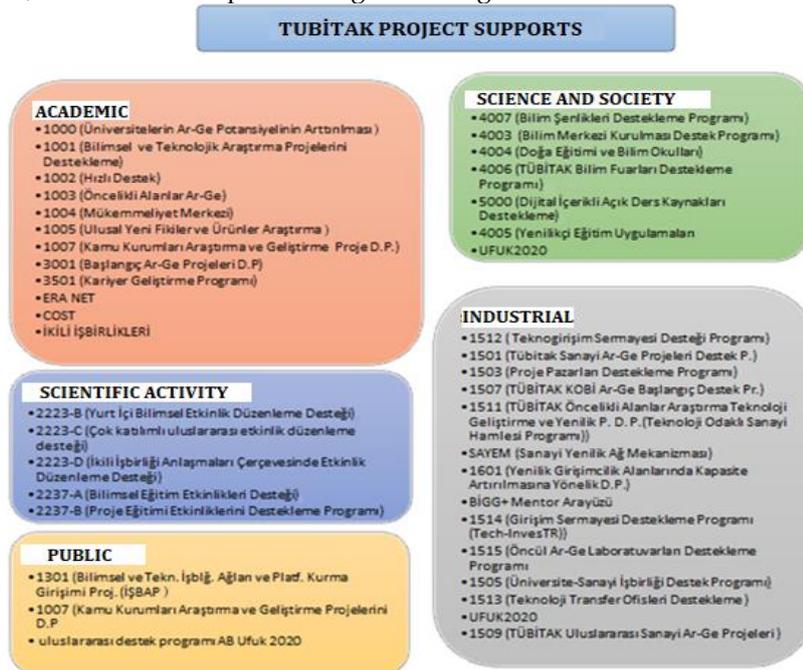


Figure 1. TUBİTAK Project Supports

This study was supported by the Scientific Training Activities Supporting Program of TUBITAK. Activities were performed within the scope of the scientific training activities project with 2237-A call sign. This project aims to support the scientific training activities to be organized domestically. Within this scope, a project was prepared for studies studying at postgraduate education within the scope of call in this course. This course activity aims to teach the method and techniques to the postgraduate students from different fields of education and educational sciences so that they will be able to prepare projects in their fields and interdisciplinary fields through a social environment with detailed and realistic participation of academic members from different universities. Within this scope, 24 participants from different universities are provided training to prepare any project with the expert academicians in six days. Participants were enabled to prepare their project ideas in the form of a project proposal and present them in the trainers' panel to reinforce the practical knowledge they theoretically learned. Thus, since trainers evaluated the project proposals in a panel scene, participants gained more information about the process. This study aims to determine the extent to which the participants utilised this training and present the learning outputs. When project-related studies in the literature are examined, teachers' views on the project preparation process (Donmuş & İzci, 2016; Kavacı, Kılıç, & Kavacı, 2015), the development of project writing skills of prospective teachers (Aydın, Bacanak and Çepni, 2013; Peten, Yaman, Sezen Vekli, and Çavuş. , 2019) and examining the problems, opinions and needs of students in the project preparation process (Avcı, Özenir, & Yücel, 2019; Özel & Akyol, 2016; Sözer, 2017) can be found. It is thought that providing applied project development education at the postgraduate level will contribute to the field. Because it is believed that it will contribute to the development of the participants' project writing competencies and thus, it is expected that increase of writing projects in the following periods, with this aspect, this study could contribute to the literature.

## **2. Method**

This study is carried out by a weak experimental design. The impact of the practice in this design is tested by studies performed on a single group. There is no randomness and matching in group formation. Since it was carried out with a single group, the group was first given the pretests and then the training (Cohen, Manion, and Morrison, 2000:213). The group was given post-tests so that changes can be observed after the training.

### **2.1 Study Group**

Project applications were received through an online form and lasted for 30 days. Later, announcements were made over social media and the project website. It was determined at the end of the process that the total applications were 198 people. As stated in the project proposal, it was paid attention to the fact that the participant group consisting of 24 individuals comes from different disciplines and different universities of major education and educational sciences (maximum 4 individuals from a university). It was determined that there are participants from 15 different majors in the project, and these participants are studying post-graduate education in 20 different universities. Also, it was stated in the project announcement that students who are studying in a master's degree programme with a thesis or doctorate programme of minimum 4 different majors of the education science or major education programs would be elected. Accordingly, 13 of the participants are in a master's degree programme with a thesis and 11 are in a doctorate programme. Thus, the condition entailing that the participants should know about a scientific study's basics, justifying their enrollment in a master's degree programme with a thesis or doctorate programme was considered. An environment was created to enable the postgraduate students to be aware of both studies in their majors and other majors and create an infrastructure for interdisciplinary studies. Participants were asked whether they participated in another project before this project or not. Once data related to project training in which participants are examined, it is seen that one of the participants conducted TUBİTAK 4007 project. When answers of other participants were examined, it is seen that participants took part in TUBİTAK projects as a guide. It was found that they took part in other project types as participants. It was determined that this is the first project for 5 participants. The condition regarding not participating in a comprehensive project writing training earlier was stipulated in a project participation stage. According to these answers, it was determined that participants met the condition of not participating in any project having similar content earlier stipulated in the project participation criteria.

## 2.2 Process Steps

Course covers a training process of 6 days. Trainers who are competent in their fields about all phases of project writing informed the participants in the course lasting for totally 6 days excluding preparations. In the first day, data for determining the project outputs were collected from the participants. Creative drama activities were performed with the participants within the scope of acquaintance activity. In this activity, it was aimed that participants be acquainted with other individuals and introduce themselves. During these practices, it was provided to create groups consisting of 4 individuals by similarities of participants' working fields. In the first data of the project, generating ideas workshop and the activity of problem analysis and solution were performed and participants were provided to focus on project ideas. Then, general information was given about national projects and scientific research projects (BAP) and project codes. On the second day, information was given about OKA, KOSGEP, DOKAP, project supports of Ministries, and projects carried out with other public/private organizations. Participants started to identify those that suit their ideas by getting informed about codes of projects to which joint support is given. The next day, they took the general information lesson about international projects (Erasmus, COST, Horizon2020) and project codes. In so doing, participants were enabled to get general information about projects both in national and international fields. Participants gathered with group mates at the end of the training process every day and performed studies to clarify project ideas. On the next day, they were informed about project samples and ethics, project forms, research, and database use. They acquired detailed information about processes they should pay attention to while writing their projects. On the fifth day, general information was given about project budgeting, TUBITAK projects 1001-1002-1003-3501. After this stage, participants gathered and focused on their projects. On the last day, general information related to project writing was repeated, and related trainers were provided to assess the projects built by participants and make suggestions. On the sixth day's afternoon, panel works were performed for project proposals. This panel was built to show similarity to the panel performed by TUBITAK, and a 6-point assessment system calculated projects of participants in secret scoring. Then, panellists made their assessments verbally about the project of each group. It is possible to access the activity program on the project website (see; <http://sabaproje.omu.edu.tr/tubitak-2237-a/>)

## 2.3 Data Collection Tools

Three different data collection tools were used in the research. One of these tools is interview form, and others are graded scales.

**Interview Form:** Participants were asked to fill in two different interview forms before the project start and after the project completion. Questions in the interview form were prepared by taking the opinion of 4 experts. This form was used to reveal the opinions of participants for the project. There are 10 questions in the interview form. These questions are about participants' competencies and those training they received added/will add to themselves regarding project writing. **Research Competence Scale (RCS):** This Likert type scale developed by Büyüköztürk (1997) consists 7 items. Scale is consisted of "zero", "less", "moderate", "quite" and "full" options and is scored between 1-5. Participants can take 7 (minimum) or 35 (maximum) scores from this scale whose Cronbach alpha reliability coefficient. Degree ranges are used instead of maximum and minimum scores for this study, and scores close to 1 mean that research competence is zero; scores being close to 5 mean that it is full. The reliability coefficient of the pretest and posttest data applied in this study was found respectively 0,83 and 0,87.

**Research Intended Anxiety Scale (RIA):** This scale developed by Büyüköztürk (1997) is a Likert type scale that is consisted of 12 items. Answers given to the items given in this tool were calculated by giving between 5-1 in statements reflecting the anxiety state directly from "I completely agree" to "I never agree". This process was reversely applied to the reverse statements, not directly reflecting the anxiety state. Participants can take 12 (min.), 60 scores (max.) from the scale. Thus, the high score taken from the scale shows high anxiety, the low score shows low anxiety. In this research, Likert degree ranges were used. Accordingly, it was accepted that as scores close to 1, the research anxiety is low, scores close to 5, the anxiety is high. The scale's internal consistency coefficient was calculated as 0,87, and this value was accepted as a sufficient level for reliability. The reliability coefficient of pre-test and post-test data of the limited participant number in this study is respectively 0,89 and 0,90.

## 2.4 Data Analysis

Two types of data were obtained in terms of data analysis in this study. One of these is qualitative data obtained from interview forms, and the other is quantitative data obtained from graded scales. The qualitative and quantitative data obtained in the application process were analysed as follows.

The interview form was analyzed by content analysis method by using descriptive statistical methods. The content analysis method targets the presentation of the problem in a systematic and unbiased manner. For this purpose, data were collected and analyzed together with two researchers. In this stage, every question was analysed by theme, category and codes. The matching percentages of these researchers were calculated by a formula developed by Miles and Huberman (1994). Discussions and examinations on data were continued till the matching percentage among the researchers was 100%. Frequencies of data and percentage rates calculated depending on these frequencies were presented in tables so frequencies would correspond to any research question's answer.

A statistical analysis program was used for the analysis of graded scales. After data were transferred to the program, normality values were controlled. Due to the small number of participants, skewness and kurtosis values of quantitative data were examined, and it was found that data obtained were in the range of -1 and +1. It can be said that the reason for such a limited number of data showing normal distribution may be resulted from that elected individuals gathered for a certain purpose and they have similar characteristics. Parametric statistical analyses were used for data obtained in conformity with distribution of data. However, since the number of participants is 24, the confidence interval was taken as 95%.

## 3. Findings

The content analysis results of the answers that participants gave for the interview questions proceed in presenting numeric data. The quantitative data were analysed by making a-t test by gender. Once the project's quantitative data were analysed, answers which participants gave to RCS and RIA scales were analysed. The following analyses were obtained by comparing both sub-factors and total scores with dependent t-test:

**Table 1.** Participants' Dependent T-Test Results on Research Competence Scale's Pre-Test and Post-Test Scores

Factor	Test	N	$\bar{X}$	S	sd	t	p
RCS	Pre-test	23	3,36	0,53	22	4,77	,000
	Post-test		4,01	0,51			

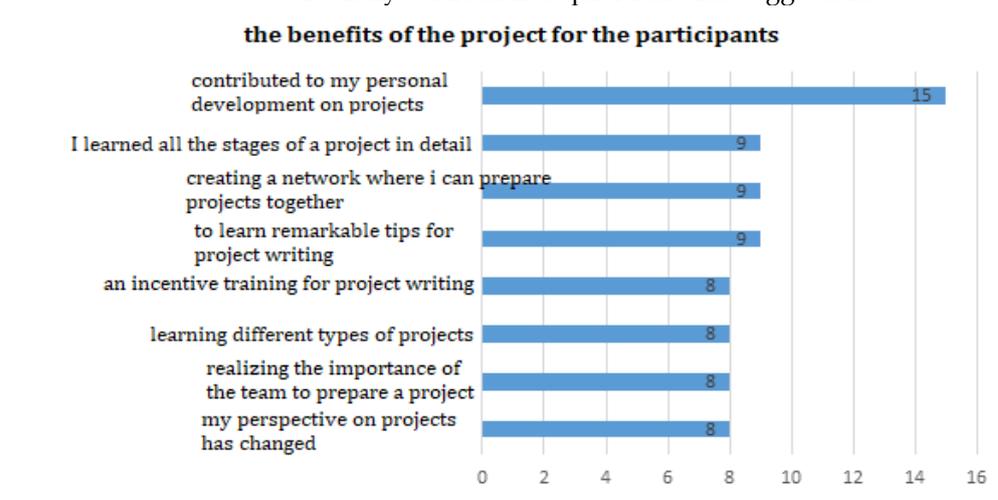
According to Table 1, it was found that there is difference between RCS pre-test and post-test scores of the participants at a meaningful level. It was determined that this difference is in favour of post-test ( $t(22)= 4,44$ ;  $p<,05$ ). Once the mean scores were examined, it was found that post-test score is 0,65 higher than pre-test score. It can be said that students' research-intended competence scores increased by about 20%, and their homogeneity levels partially increased.

Once the pre-test and post-test data of participant were examined;

K<sub>2</sub> expresses himself/herself by saying: "I do not find myself sufficient in terms of project preparation, doing research competence yet. I have no experience of preparing TUBITAK projects."

After the training, K<sub>2</sub> expresses himself/herself by saying: "It increased my writing competence. If I am to a score between 1 and 5 to myself, I will give 4 for my progress. This is because we had no adequate time and research ability for writing our project proposals. I think that training improved us as it made us realize our mistakes". As will be understood here, participants observed progress in themselves after the training.

Once the participants' ideas related to the project were asked after the project, the participants' answers were analysed in their acquisitions and suggestions.



**Figure 2.** Project Participants' Acquisitions from Their Aspect

After the project, participants stated that the training given has an essential contribution to their personal development related to project writing. Also, it was seen that they stated that they saw all stages of any project in a detailed way, and they learned these stages well while writing a project. It was found that they stated that since project is good teamwork, they acquired a circle of friends with whom they will prepare a project thanks to this training. They said that there are essential key points in writing a project, and they learned these hints. They expressed that the training given is a project encouraging to write new projects, many friends have a desire of writing project after the training. They specified that there are many project codes that they do not know and learned the details of these codes. They generally noted that the project team is outstanding, the project team is vital for project writing, and they learned it with this team. It is understood from the statements that ideas of the participants are positive after the training and they got great yield. It is understood that they they have changes in their point of view for the project.

**Table 2.** Participants' Dependent T-Test Results on Research-Intended Anxiety Scale's Pre-Test and Post-Test Scores

Factor	Test	N	$\bar{X}$	S	sd	t	p
RIA	Pre-test	23	4,06	0,57	22	2,25	,035
	Post-test		4,27	0,57			

According to Table 2, it was found that participants' RIA post-test scores showed an increase compared with pre-test scores, and this increase created a meaningful difference. It was determined that the difference is in favour of post-test increasing 0,21 score compared with pre-test score ( $t(22)= 2,25$ ;  $p<,05$ ). This result shows that the participants' anxiety levels increased about 5% once the course was completed.

Once the situations in which students felt anxious were examined in terms of qualitative data;

While K<sub>3</sub> expresses himself/herself by saying: "...Organizing team, managing project and making budget planning are my biggest anxiety fields."

At the end of the training K<sub>3</sub> expresses himself/herself by saying: "The feeling of competencies is a proud feeling; however, since I am aware that it will be tiresome, this is anxious.". As will be understood here, it is seen that participants stated that their anxiety states also increased.

The analysis of the question related with their opinions about competence levels in project writing was performed. The participants were asked about their competence levels in project writing before and after the project. Answers of the participants were as follows.

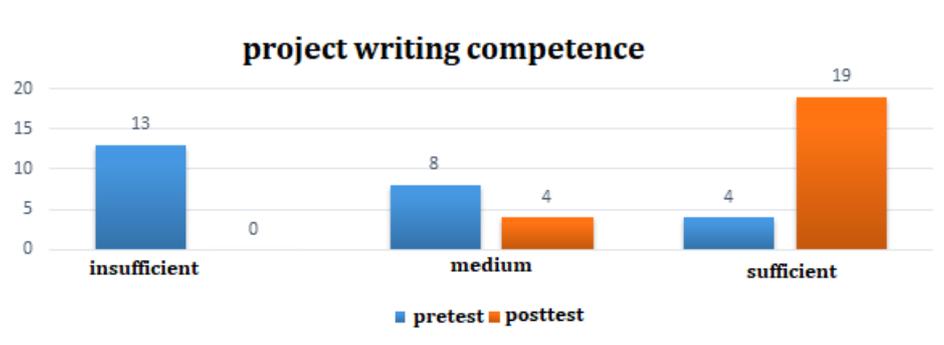


Figure 3. Project Writing Competence

Once the research competencies examined the project participants, it was seen that while they felt incompetent before the project training, they were more competent after the training in the quantitative analysis results in Table 3. When it was examined in terms of qualitative results, many participants who described themselves as incompetent in regard to project writing before participating into the training consider that they remedied their deficiencies and become more competent after the theoretical and practical trainings. This finding shows that training within the project's scope substantially achieved its goal in terms of the participants. There has been an increase in the number of persons who think to be competent in project writing. It is understood that the training given is beneficial from this point of view. Both results support each other. If this finding is intended to be supported with citations of the participants' answers;

K<sub>1</sub> expresses himself/herself in the pre-test by saying: "I do not feel myself so competent because I had no project writing experience. For this reason, I am not in a level which I desire to present an effective product in the context of a project."

After the training, his/her opinion changed, K<sub>1</sub>: "I was not feeling myself competent on the first day. I had some ideas only about the project headings. Now, I believe that I will prepare a project although not exceptionally good."

Table 3. Relation Results between RCS And RIA Post-Test Scores of Participants

Test	Factor		Research Intended Anxiety
Pre-test	Research Competence	r	-0,05
		p	,833
		N	23
Post-test	Research Competence	r	0,11
		p	,629
		N	23

Once Table 3 was examined, it was found out that the relationship level between RCS and RIA scores of the participants before and after the course was low. According to this analysis, it can be said that there is no meaningful relation between levels where participants find themselves competent in the research and levels where they find themselves anxious while doing research.

Once the views of the participants about the research process and anxiety states were examined;

K<sub>4</sub>: "Although I have been actively taking part in the project writing process, I read the projects written, and I like researching in my field. I can say that I find myself competent at low level in writing of project proposal."

K<sub>5</sub>: "I feel competent. I have learned key points to be taken into consideration in project writing."

K<sub>6</sub>: "My point of view to the project writing has quite changed after I participated into Project Writing Training. It enabled me to see my weaknesss both theoretically, and practically and I acquired new information. For this reason, I feel competent."

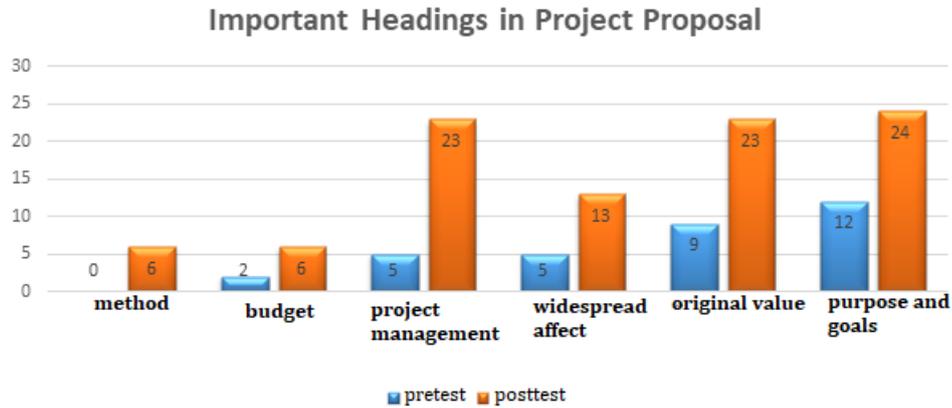
K<sub>7</sub>: "I feel quite competent, because they showed us the key points of project preparation, and we tried and applied practically."

K<sub>8</sub>: "...I got the chance of seeing that I have several subjects in which I am incompetent."

K<sub>9</sub>: "I was not feeling myself too competent on the first day. I had some ideas only about the project headings. Now, I believe that I will prepare a project although not very good."

Once the views of the participants were examined, it is seen that there are differences between the levels in which they see themselves competent in the research and feeling anxious while doing research, as in the quantitative data. It is seen that their ideas have changed after the training.

To determine participants' opinions, they were asked what the project proposal headings are before and after the project. The answers of the participants are as follows.



**Figure 4.** Important Headings in Project Proposal

Once the participants' answers are examined, it is seen that they did not mention the method section before the project writing training; they said that the method section was important after the training. It was understood that they were not aware of the budget's importance; however, afterwards, they stated that the budget was also important. While it was found that they only addressed the concept of risk management of the states under the project management heading, it is seen that they included every concept under the project management sub-heading after the project training. It is seen that after the project training, in which 5 individuals mentioned the importance of the typical impact before the project, 13 individuals mentioned the importance of this heading after the project training. It is seen that 9 individuals expressed the unique value and research problem in the unique value section that is an indispensable part of the projects; however, they generally concluded that all unique value and sub-headings are important after the project. While it is seen that they only expressed as a goal before the project in writing the aim and target, they stated that the aim and target section is a heading and give the project's essence after the training.

#### 4. Discussion, Conclusion and Suggestions

The aim of this course activity where the findings of this research were collected is to provide a detailed and realistic training environment in a social setting for the projects which participants who study at major education and post-graduate education in different fields of educational sciences will prepare. Accordingly, theoretical and practical information on each project phase from preparation to reporting was given to the participants when the course was completed. Eventually, they are informed about all phases of project preparation. Also, participants' research competencies required to prepare a project and research-intended anxiety levels were measured, and their tendencies were presented.

One of the research's important results within this scope is that the participants' research competencies showed a meaningful difference after the project compared with the pre-project. This result also means that participants saw themselves competent at a lower level before the study. It was found out that the participants' homogeneity levels regarding research competence also increased as well as an apparent score increase after the study. It can be said that theoretical and practical information given in project training effectively improves the competence levels of the participants. It may be suggested that this state results from the fact that trainers who have considerable knowledge in their fields include both theoretical and practical information into the content and their contributions in 6 days of the training process. Participants believe that both they stated that they have considerable differences in themselves about the projects after the training, this project effectively

contributes to their personal development and acquisition of a good social circle. Likewise, it was concluded that there was a positive change in trainers' opinions at the end of the 12 days project training held by Güler (2010). In studies carried out by Memişoğlu (2001) and Önen, Mertoğlu, Saka, and Gürdal (2010), they found out that participants stated that the Project training improved them personally from many aspects.

Participants' research-intended anxiety levels were higher than pre-test at the end of the project, which is another important result of the research. It was shown that the participants' anxiety levels differ before and after the project, and the difference is consistent with the post-test. Accordingly, it can be said that training given increased the anxiety levels of the participants. As will be understood from the qualitative data obtained from the project, as the participants obtained information further regarding projects known superficially or partially, they may have noticed the difficulty of overcoming such works. Büyüköztürk (1999b) noted in his study that individuals with research experience feel less anxious than those who do not. It may be considered that the research process is not generally unclear for those who have research experience. They can overcome some possible fears, uneasiness through this process. On the contrary, it may be thought that those who have no research experience feel anxiety at a higher level due to fear and uneasiness for some aspects of the research process, from planning and implementing to reporting. Simultaneously, once the qualitative data were examined, it was seen that anxiety states were low when every phase of project writing was not known. However, the anxiety states increased once they thought about the entire project writing process after seeing numerous points to be taken into consideration in a project writing phase after the training. Quantitative data of the research supported this result. According to the project training findings, there is no relation between research competence and research-intended anxiety both in pre-test and post-test. This condition demonstrates no relation between levels where participants see themselves competent and their anxiety levels in doing research. In other words, it can be said that the prerequisite entailing to have a research competence for conducting projects does not lead to anxiety on participants. Accordingly, it may be argued that even if participants having too little concrete experience in projects had high research competencies, they do not see this state as a restriction for themselves. Büyüköztürk (1999b) states that performance observed in research course and whether having an earlier research experience or not is each important factor in estimating the anxiety which university students will feel in doing research. Once it is considered that experience and achievement are two important properties in the estimation of anxiety for research account for about one-fifth of the variance, generating research projects in which other variables that are considered to be associated with research anxiety would be helpful. Developing programs that will reduce the research anxiety and testing its efficiency in experimental studies are regarded significant. Once the relation between the research competence and anxiety is examined, the existence of anxiety in those who will write a project will bring advantage in the writing project phase. While participants described their research competencies low before project writing training, they stated that their research competencies increased after the training. According to the qualitative data obtained in the project, the participants stated that they have progress, their point of view changed, they saw their deficiencies, and they saw themselves more competent for these states after the training. Some participants stating that they acquired quite a lot of information noted that project writing is complex and writing a project worries them since they were aware of the process's difficulty, which also means questioning his/her competence. Once the participants' competencies regarding project writing were examined at the end of the project training, they stated that they see themselves at a better point than the pre-project period regarding research competencies. Saracaloğlu (2008) and Newman (1994) noted that the research method courses taken in the post-graduate education process would help students to remove their deficiencies in research competencies at early times when they started to take the course, and they stated that there was an increase in research competences of the participants through the training given at the end of the course. In the study of Piburn (1992), the research methods course affected the research competence levels of the students. Once the results of this research were examined, it may be concluded that training provided a positive contribution to participants' project writing competencies. This is also an important indicator that such training attained its aim, and they have beneficial outcomes at bachelor or post-graduate levels. This project's findings show no meaningful relationship between the research competence level of participants and research-intended anxieties. In a research conducted by Büyüköztürk (1999a), he noted that there is also a negative and significant relationship between the experience and research-intended anxiety. Again, in the study carried out by Büyüköztürk (1999b), it was argued that there is a moderate positive relationship between the research experience and achievement in a research course. This means that there is a difference between this study's

results and these preceding two studies' results. It can be said that this condition may be associated with data collection from a relatively more significant sampling than the study performed by Büyüköztürk. Also, since this research is a cause and effect study, it can be said that whether the expectations of the participants from the training has an impact on their research competencies and anxiety levels is within the realms of possibility. Peten, Yaman, Vekli, and Çavuş (2019) conducted a study to increase project writing/preparation skills of science teacher candidates for TUBITAK support programs. They noted that the teacher candidates do not know what research, research-development and information research project types mean. Therefore, they selected the wrong project types. Teachers generally prepared science festival projects and utilized the projects accessible on the internet while preparing such projects and performed their studies with project proposals containing overall performance experiments instead of project proposals. This training will contribute to the scientific skills of students. Due to this negative condition, once the study findings of Baki and Bütüner (2009) were examined, they noted that teachers could not contribute to the writing of incentive project proposals for their students since they did not get practical project writing training. Hence, they could not adequately encourage their students nor help them choose a project subject. Önen, Mertoğlu, Saka, and Gürdal (2010) and Öztuna Kaplan and Diker Çoşkun (2012) stated that training should be given for project writing and preparation to overcome this state. One of the most important results of this study is that project writing training should be increased to remove deficiency in project writing. Tatlı (2016) concluded in his study conducted to identify the opinions of 360 teachers from 27 different branches working in elementary, secondary and high school level about the project development process. It was to establish the hindrances in front of teachers in this process that teachers did not get any training in project development and management, the large part of teachers wanted to take part in a project; however, they could not participate in project works due to different deficiencies they observed in themselves. Timur and İmer-Çetin (2017) noted that there is a deficiency in the generation of new ideas in the project, Ünver, Arabacıoğlu, and Okulu (2015) found a deficiency in finding a project subject, Özel and Akyol (2016) stated in their study that there are many deficiencies in the project writing phase. Once it is generally evaluated, since individuals do not get practical training, it can be said that they have a negative attitude against project writing due to their prejudices and lack of knowledge related to project writing. Giving practical project writing training will be a problem-solving remedy for removing this lack of knowledge and negativity. For this reason, continuation and reproduction of training given are essential. As training enhances, prevention of such negativities will be easier. Upon analysing the project interviews, students stated that they were delighted with this training and such training provided many advantages both for their personal and corporate development. Participants noted that they had no courage in project writing at the beginning of the course. Participants were provided with theoretical and practical information from preparation to reporting when the course was completed. Based on this information, participants concluded that the most important features in project preparation are factors such as project team, method, budget management, not finding a project idea. Many students stated that they encouraged to make a project application on its own or with the team after this project training. Also, participants meeting with their peers willing to project writing stated that they would write interdisciplinary project and this training they received provided an excellent contribution for building this idea. They expressed that they will put a signature under more result-oriented works once they work with experienced and willing individuals and growth in their social circle. This is the indicator that training given is a considerable contribution. Participants stated that they admired the working styles and disciplines of the project team. They noted that they considered earlier that only one person writes such projects and only one person engaged in all works. They specified that project writing and enforcement are teamwork; they saw how the team performed division of labour and worked in harmony at the end of the project. Participants made a distribution of duties while preparing project proposals within the course's scope and realised how working in a team will be and how responsibilities are shared.

All participants expressed that they will make a project application once the project was completed. They noted that they were more courageous concerning writing projects, and their existing biases have decreased. Lack of knowledge, difficulty in project writing, facing challenges during enforcement, negative ideas such as foisting all works on any person in projects turned into positive opinion thanks to this training. While participants believed that participation in such training was adequate instead of preparing a project when they applied to the project, they believed that they could write a project at the end of the project. Almost all participants stated that they would write the project and they will not be undaunted before the challenges by

confronting this work. Even if learning the phases of project writing was among the project's important objectives, the ultimate objective is that each participant will prepare a project by creating his/her team. For this reason, an increase in the project writing wishes of participants is an essential indicator of attaining the aim at the end of the course.

Once the initial results are considered, it is recommended to disseminate the training within this course's scope that is successful in terms of its outputs for reaching large masses. It is foreseen that this practical training at the post-graduate level will be beneficial in different education levels. Adding this training to bachelor and post-graduate programmes in universities as a compulsory course will be beneficial in encouraging project preparation so that more people can access such training. Deficiencies of many teacher candidates, teacher and post-graduate students related to project writing training were presented in many studies. Increasing the number of these training courses may help overcome these problems.

Failure to continue the training in project writing also gets down the students in project writing. Because scarcity of teacher number who will encourage project writing decreases the student mass, who will write a project. To overcome this problem, giving practical project writing training to teacher candidates and teachers can increase Turkey's project writing rate and make students reach experienced teachers in project writing easier. When it is taken into account that there is a limited number of people who write a project or engage in project writing in Turkey, it is considered that the more practical training is given, the more important role it will have in eliminating this deficiency. TUBITAK provides many supports to project writing training. Studies show that many people achieved training by writing project (Aydın, Bacanak and Çepni, 2013; Özel and Akyol, 2016). Since details about individuals are entered into the TUBITAK system in project training, TUBITAK may increase the interest in project writing training and contribute to identifying realistic results by sharing information regarding how many people of those who received training made a project application and how many projects are accepted.

## 5. References

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