

A Project Proposal Preparation Experience: Perceptions of Preservice Primary School Teachers

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Abstract: This study aims to have an in-depth understanding of the perceptions of preservice primary school teachers who have experienced preparing a project proposal about these experiences. The sample of the research, which was conducted by the descriptive phenomenology design, one of the qualitative research methods, consists of four preservice primary school teachers selected according to the criterion sampling method. The researchers used a semi-structured interview form as the data collection tool. During the data collection process, focus group interviews and semi-structured individual interviews were conducted. The data obtained at the end of the interviews was transcribed and subjected to content analysis. As a result of the study, it was concluded that although there were various difficulties in the process of preparing a project proposal, this experience improved the higher-order thinking, scientific research and digital media competencies of the preservice primary school teachers. In addition, the experience of preparing a project proposal supported the personal development of the preservice primary school teachers and contributed to their self-knowledge. It is among the suggestions of the research to conduct workshops in which preservice teachers and lecturers will cooperate to prepare undergraduate projects.

Keywords: Descriptive phenomenology, undergraduate level project, qualitative research, teacher training.

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Introduction

Projects are the products of a complex and long questioning process that individuals perform in their minds after observing and examining their environment. Individuals who develop a research question and conduct their research under the consultancy of a project manager convene within the framework of the project with other individuals who desire to work in similar fields in their environment and perform joint work. They also have the opportunity to develop many skills, such as creative and critical thinking, cooperation and communication. In this context, it can be said that projects support achieving many multifaceted gains, both explicit and implicit,.

The concept of the project, which refers to teamwork by individuals in researching a targeted subject, the process of solving a problem, the teaching of a concept or the acquisition of a skill, can also be defined as thinking, questioning, imagining, planning and designing in the face of problems encountered in daily life. Projects, which accelerate learning transfer, unlike individual learning, play a key role in relational learning carried out in line with a specific goal (Çalışır, 2015; Erdem, 2002; Erdem & Akkoyunlu, 2002; Goldman, 2000; Katz & Chard, 1989; Walker & Leary, 2009). The problem-solving skill has an important place among the 21st-century skills. In this context, projects are important interdisciplinary structures that help gain problem-solving skills. Project learners can produce creative solutions to the problems they encounter in their lives and become active learners (Barak & Dori, 2005; Bell, 2010; Schneider et al., 2002; Zohar & Nemet, 2002). Projects that do not only support the learning process but are the process itself increase the motivation for deep learning, reading and learning at a high level, and help the subjects to be better understood (Bell, 2010). In this respect, projects within the scope of other education programs, especially basic education, which marks the beginning of the development of learning skills, can be a complementary component of the related program.

Beginning with the primary school years, raising qualified individuals who possess problem-solving skills and a project culture is an important issue in terms of the development of a country and the analysis and resolution of existing/possible problems. Teachers, who constitute one of the basic and strategic components of the education system, have a critical role in developing a country by raising sophisticated and qualified manpower who can think, question and generate solutions to existing problems (Özden, 1999). The complex learning skills of individuals are reinforced, and their lifelong learning habits are supported with projects, which begin to be conducted especially at the primary school level and which strengthen student-project manager and student-student communication in line with the social cognitive approach (Eggers, 2007; Ravanis & Bagakis, 1998). It is important for teachers, like the individuals they are going to raise, to be individuals who exhibit the necessary sensitivity for solving problems in life and have qualifications to solve these problems (Güven, 2013). One of the most important and critical points that can enable teachers to have these qualifications is the process of becoming a teacher, in which they receive their undergraduate education. The fact that preservice teachers can solve problems related to their field by receiving a qualified

education during their undergraduate education process is closely associated with their being good project developers. As a matter of fact, the development and execution of projects by preservice teachers can enable them to be better problem solvers (Mettas & Constantinou, 2007) and thus raise their students' consciousness about how to learn better (Ljung Djärf et al., 2014 as cited in Kokotsaki et al., 2016). There are studies in the relevant literature on project development and project preparation processes in various fields of study for teachers working in different branches and for preservice teachers continuing their undergraduate education (Metin-Peten et al., 2019; Mirici et al., 2019; Sağdıç et al., 2017; Timur and Imer Cetin, 2017). In addition to these studies, Kadioğlu (2020), describing the experiences of preservice teachers from different disciplines regarding the TÜBİTAK projects they completed, emphasized the anxiety of the preservice teachers due to their inexperience, inability to complete the project proposal and lack of adequate support for the project. Moreover, the research also revealed that preservice teachers had gains in acquiring researcher and prospective educator identities and communication skills. This study is functional in terms of revealing the gains made through the project experiences of the preservice primary school teachers in their undergraduate years. Revealing these experiences is important for preservice teachers who will prepare a new project. Although there are studies in the literature dealing with project experiences in different teaching branches, the presence of preservice primary school teachers as subjects constitutes the originality of this study.

This study, which was conducted in this framework, aims to try to understand the perceptions of the preservice primary school teachers who have experienced a project proposal preparation process concerning these experiences. For this purpose, answers were sought to the following research questions:

1. What does the project mean for preservice primary school teachers?
2. What are the experiences of preservice primary school teachers regarding preparing a project proposal?
3. How do preservice primary school teachers make sense of preparing a project proposal?

Method

The flow chart of the research, in which the qualitative research approach was adopted, is as in Figure 1:

Figure 1.
Flow chart of the study



Research Design

This study was designed by the phenomenological design, which is one of the qualitative research designs. Phenomenology reveals the experiences of individuals concerning a concept or a phenomenon (Cresswell, 2007). The phenomenological design focuses on phenomena that can be encountered in various forms such as events, experiences, perceptions, orientations, concepts and situations that the individual is aware of but at the same time lacks a deep understanding of (Yıldırım & Şimşek, 2018). The phenomenological design aims to reveal individual experiences and how these experiences occur (Moustakas, 1994 as cited in Cresswell, 2007). Phenomenology focuses on how experience transforms into consciousness. The main focus of phenomenology is how individuals perceive the phenomenon, how they describe it, how they feel about the phenomenon, how they judge the phenomenon, how they remember it, how they make sense of it, and how they talk to others about the phenomenon (Patton, 2018). Phenomenological studies are handled in two different ways. These are descriptive phenomenology and interpretive phenomenology. Reiners (2012) states that descriptive phenomenology has an epistemological perspective and is concerned with what individuals know (as cited in Ersoy, 2019).

This study, too, aims to have an in-depth understanding of the perceptions of the preservice primary school teachers about their project proposal preparation experiences. Hence, the research was conducted using a descriptive-phenomenological design. The phenomenon of this research is project proposal preparation. The phenomenological design was adopted in this study because it aimed to reveal, through focus group interviews and semi-structured interviews, the perceptions of the preservice primary school teachers who experienced preparing a project proposal.

Participants

The participants in the study were determined by criterion sampling. The basic understanding of criterion sampling is to work with all situations that meet various predetermined criteria (Yıldırım & Şimşek, 2018). The criteria determined in this research are: the participants should be studying in a primary school teaching program at a state university, they must have taken part in the project team in the preparation of a project proposal within the scope of TÜBA, TÜBİTAK, etc. at least once during their undergraduate education and the process of project proposal evaluation must not have been concluded yet. In the process of determining the participants, information was collected through a Google survey. This survey was sent to all students studying in the primary school teaching program at the relevant university. In the survey, in which 102 students participated, it was seen that five students had previously taken part in the process of preparing a project proposal. One of these students stated that s/he did not want to participate in the research. Therefore, four preservice teachers, three from the fourth grade and one from the third grade, who volunteered to participate in the research in line with the determined criteria, were included in the study. Since it was stated that 3-10 participants would be sufficient in a phenomenological study (as cited in Langdrige, 2007, Hasanah & Supardi, 2020), the number of participants was deemed sufficient. Information is given below about the participants whose names are coded.

Demographic Features of the Participants

There are two male and two female participants in the study. The participants attend a primary school teaching program. The participants did not have any project experience prior to the process of preparing this project proposal. In addition, they did not receive any training related to the project. Aslı, who worked as a coordinator on her project, is a graduate of the vocational high school of health. In regard to preparing a project proposal, the participant described herself to be at a high level in terms of critical thinking, creative thinking, communication, digital competence, responsibility and respect skills and values and at a medium level in terms of cooperation and patience skills and values. Ahmet, who took part in his project as a project partner, is a graduate of an open high school. The participant described himself to be at a high level in terms of the skills and values of cooperation, creative thinking, communication, responsibility, patience and respect in preparing a project proposal, at a medium level in terms of digital competency, and at a low level in terms of critical thinking skills. Ayşe, who worked as a project partner in her project, is a graduate of Anatolian High School. In preparing a project proposal, the participant described herself as having a high level of cooperation, communication, responsibility, patience, and respect, and a medium level of critical thinking, creative thinking, and digital competence skills. Ali, who took part in his project as a project partner, is a graduate of Anatolian High School. The participant described himself to be at a high level in terms of the skills and values of cooperation, critical thinking, creative thinking, communication, responsibility, patience and respect in preparing a project proposal and at a medium level in terms of digital competence skills. Aslı is in the third year of the primary school teaching program, while Ahmet, Ayşe,

and Ali are in the fourth year. The participants in the sample prepared a project proposal within the scope of TUBITAK 2209-A.

Data Collection

The main tool for data collection in phenomenological studies is the interview. With the interviews, it is aimed to reveal the experiences of individuals regarding a phenomenon and the meanings they attribute to these experiences (Yıldırım & Şimşek, 2018). Interviews enable learning about behaviors and emotions that cannot be directly observed (Merriam, 2018). Therefore, the data in this study were also collected through interviews.

First, a focus group meeting was held on April 29, 2021, joined by all the participants. This interview lasted 2 hours and 24 minutes. The purpose of this meeting was to reveal the experiences of the participants in preparing a project proposal and the meaning they attributed to their experiences in preparing a project proposal. After the focus group interviews were completed, semi-structured interviews were held separately with the participants on May 1, 2021, and May 2, 2021, lasting 38 to 62 minutes. These interviews aimed to go deeper into the areas that could not be expressed in detail in the focus group meeting. The focus group interviews were subjected to macro analysis to be able to predict which participant could answer which questions in more detail in semi-structured interviews. When no new category or theme emerged from the participants' views during the implementation of the semi-structured interviews, the interviews were brought to an end on the assumption that data saturation had been reached. Therefore, it was decided that there was no need for a new interview with the participants.

Creswell (2019) states that in cases where face-to-face interviews are not possible, interviews can be done via the internet. Due to the epidemic conditions experienced at the time of the research, the interviews were conducted online and recorded. Since it was thought that the participants' taking their courses online for two semesters while preparing their project proposals must have improved their ability to make presentations and communicate in a virtual environment, no need was felt for adaptation work.

A semi-structured interview form developed by the researchers was used during the data collection process. While developing this form, opinions were taken from two experts, one of whom is a faculty member, is an expert in the field of primary school education, has worked with preservice primary school teachers, conducted qualitative studies and taken part in projects, and an expert in the field of preschool education, who has undertaken national-international projects, and carried out many qualitative researches mainly on preservice teachers. The form was finalized in accordance with the expert opinions. The form consists of eight basic questions prepared in accordance with the three research questions. Moreover, various questions were asked as required by the context during the interviews to add depth. The basic semi-structured interview questions distributed according to the research questions are as follows:

1. What does the project mean for preservice primary school teachers?

- a. What was your opinion of the concept of “project” before preparing a project proposal?
- b. What was your opinion of the concept of “project” after preparing a project proposal?
2. What are the experiences of preservice primary school teachers regarding project proposal preparation?
 - a. Could you briefly explain how the idea of the project and the idea of transforming this idea into a project proposal developed?
 - b. Could you explain your experience with the project proposal preparation process?
 - c. What kind of feedback did you receive from your environment (friends, family, etc.) during the process of project proposal preparation?
3. How do preservice primary school teachers make sense of preparing a project proposal?
 - a. What was your opinion about “preparing a project proposal” after the experience of preparing a project proposal?
 - b. Do you think that having prepared a project proposal has contributed to you?
 - c. What impact do you think the development of a project proposal will have on your teaching-learning process in your teaching career, how will this experience affect the overall teaching- learning process and your practices related to the course?

Data Analysis

The data obtained within the scope of the research from the focus group interviews and semi-structured interviews with preservice teachers were subjected to content analysis. The process of content analysis is carried out by coding the data, finding the themes, organizing the codes and themes, and defining and interpreting the findings (Yıldırım & Şimşek, 2018). Since it was also aimed in this study to reveal the perceptions of the preservice primary school teachers about their experiences of preparing a project proposal, certain themes were reached by coding the data obtained.

During the analysis of the data, first, the data obtained from the focus group interview was subjected to macro analysis. This analysis provided a basis for semi-structured interviews. Thus, it was aim at determining what topics each participant could express in more depth in semi-structured interviews. In the semi-structured interviews, on the other hand, the issues that could not be fully detailed in the focus group interview were detailed.

The process of data analysis began with the transfer of all the data to paper. Then the data were read several times until the researchers fully understood them. During these readings, various notes were taken next to the text in order to be able to do the coding. The expressions that were thought to provide meaningful content in line with these notes

were determined as the analysis units. Codes were created, and themes were reached based on these codes. Examples of the work done during the coding process are given in Appendix 1. The codes and themes were revised. The same procedures were performed by a researcher who was an expert in the field of primary school teaching. The codes made together with this researcher were compared. According to the Reliability = Agreement/ (Agreement + Disagreement) formula stated by Miles and Huberman (2019), the codes and themes were adjusted until the intercoder consistency reached 90 %. In the final state, the intercoder consistency was determined as 93 %, thus ensuring intercoder consistency.

Credibility and Ethics

A number of strategies, such as long-term interaction, depth-based data collection, diversification, expert review and member check, can be used to ensure credibility in research (Lincoln and Guba, 1985 as cited in Yıldırım and Şimşek, 2018). Various measures were taken to ensure the credibility of this research. In collecting the data, semi-structured interviews were held with each participant following the focus group meeting, thereby ensuring data diversity. After the data were analyzed by the researchers in order to determine the intercoder consistency, an expert who was not part of the research also analyzed 20 % of the data. The process of analysis continued until consistency was achieved. Yıldırım and Şimşek (2018) stated that one of the methods used to ensure credibility in qualitative research is member check and summarized member check under three headings. In this context, immediately after data collection, the data can be summarized, and the participants can be asked for their opinions; a report can be sent to the participants after the analysis, and a written opinion can be requested, or an individual/group meeting can be held instead of a written opinion for member check. In this study, a validation meeting was held with the participants.

After the data were analyzed and the findings were reached, the findings were shared with the participants for member check. The participants reviewed the findings within 2 weeks. Then, a focus group discussion was held, which lasted approximately 20 minutes. A category change was made after the participants reviewed the findings. The participants also validated findings outside this category. In addition, the findings were supported by direct quotations from the statements of the participants during the presentation of the findings. Since one of the ways to ensure credibility in qualitative research is to explain the research process in detail, the whole process was transparently shared in detail.

The study was conducted following ethical principles. The research was conducted with the permission of the Ethics Committee of Sakarya University Rectory, approved by the decision numbered "59" taken at the meeting no: 31 dated 03.02.2021. Following this permission, the participants were determined and written consent was obtained from the participants in the virtual environment stating that they volunteered to participate in the study (Appendix 2). In addition, the participants verbally confirmed that they volunteered to participate in this research at the beginning of the online interviews and that they agreed to have the interviews recorded. In addition, the names of the participants were

not shared directly; instead, they were given code names to obtain information about their year at university, gender, study program, the type of project for which they prepared the proposal, and his/her role in the project.

Findings

This section presents the findings in line with the research questions. Direct quotations were made from the statements of the participants during the presentation of the findings about what the project meant to the preservice primary school teachers who experienced a project proposal preparation process, their experiences of preparing a project proposal, and how they made sense of preparing the project proposal.

Project for Preservice Primary School Teachers

The findings related to the first research question, i.e. "What does the project mean for preservice primary school teachers?" are presented in two tables in line with the interview questions. Table 1 presents the findings regarding the meaning that the preservice primary school teachers attributed to the project before they prepared the project proposal.

Table 1.

The "Project" Before Preparing the Project Proposal

Theme	Category	Code
Meeting the Project	How	Through TÜBİTAK projects
	When	At High School At Middle School
The Tendency towards the Project	Enthusiasm	Wishing to have met the project earlier Aspiring to do a project Wanting to do a project
	Avoidance	Prejudice caused by past experiences Feeling incompetent in developing projects in certain disciplines Alienation from the project due to being graded
Generating Project Ideas	Inhibitory factors	Lack of knowledge leading to anxiety Indecision Low self-efficacy belief Lack of guidance The difficulty of conducting a project Heavy workload involved in a project Being convinced of the project Feeling competent in developing a project
	Supportive factors	Prior project experiences Seeking a project opportunity The belief that the project should be carried out with a team Awareness that projects can also be conducted in social studies

Conceptualization	Misconceptions	Identifying the concept of the project only with science disciplines
		Preliminary experiences The obligation of the project to yield a concrete product

When Table 1 is examined, it is seen that the preservice primary school teachers' opinions about the project before preparing a project proposal are gathered under the themes of meeting with the project, the tendency towards the project, generating project ideas and conceptualization. It is seen that the preservice teachers met the project through TÜBİTAK projects during their middle and high school years, and they had tendencies of enthusiasm and avoidance towards the project. It is seen that the source of the avoidance tendency is prejudice from past experiences, feeling incompetent in developing projects in certain disciplines, and the grading of projects. Ahmet expressed his opinion concerning his alienation from the project due to the grading involved in it: "Like Ali and Ayşe, I first encountered the concept of a project in middle school. In exchange for grades. At the time, it was very difficult for us to do the project assignments because we did them alone."

It is noteworthy that the previous experiences of the preservice teachers created a misconception in the conceptualization of the project. These experiences caused the preservice teachers to associate the project only with science disciplines and to develop the idea that it required creating a concrete product. Ali, who identified the project only with science disciplines, expressed this idea in the following terms: "The concept of the project for me was associated with engineering and science disciplines. I also stayed away from the project because I did not see myself as talented and knowledgeable in these fields. That is, I was saying to myself, 'I can't do it', that's why." In addition, Ali's views show that this misconception lowered his self-efficacy beliefs. In the same vein, the following words of Ahmet are a remarkable statement explaining the idea that the project required the creation of a concrete object, "You need to make something more like 3D, you know, a product. And others need to see it, too. You know, it's like you have made a product, and when I thought about it, it would always loom large, of course, because I didn't know its true content." The findings regarding the meaning attributed to the project by the preservice primary school teachers after preparing the project proposal are given in Table 2.

Table 2.

The "Project" After the Preparation of the Project Proposal

Theme	Category	Code
Change	Belief	Feeling more confident about project preparation
	Source of Project Idea	Moving away from the idea of identifying the project only with science disciplines Seeing one's whole life as a source/inspiration for the project Focusing on more specific topics Clarifying the project idea The idea being a prerequisite for the project

		The fact that science is cumulative has an effect on project idea
Requirement	Team Spirit	Eligible team Cooperation Individual responsibility Positive commitment Peer teaching
	Individual	Readiness Perseverance Entrepreneurship Risk-taking Risk management
Process of Project Proposal Preparation	Positive thoughts	An enjoyable process that requires effort
	Negative thoughts	The difficulty of doing a project The heavy workload involved in doing a project

When Table 2 is examined, it is observed that after preparing the project proposal, the preservice primary school teachers' thoughts on the project are gathered under the themes of change, requirements and the process of project proposal preparation. The experience of preservice teachers in preparing a project proposal made them see themselves as more competent in preparing a project proposal. Ali expressed this situation: "I said, 'I can do it' for the first time when the project was over.' It was the first time that I had succeeded in a project."

The experience of the preservice teachers also distanced them from the idea of identifying the project only with science disciplines. Ali expressed this change in the following terms, "I have seen that everyone can have projects that they can do in any field, related to their field. I have seen that there are projects in all different categories, in all different fields and departments, but not in certain categories. ... I have formed the idea that it is not just about education, not just about science, or just about a field we can call engineering."

Although it was stated that generating a project idea was very difficult before preparing a project proposal, after the experience of preparing a project proposal, they came to the conclusion that it was not that difficult to generate ideas. While Ahmet expressed this view as "That's why that part got a little different after I did the project. I mean, it's not that hard to come up with an idea...", Ayşe expressed it as follows, "After coming up with an idea and following it decisively; you know I said before that only senior people or teachers could do it. However, after I wrote this project proposal, I realized that anyone with an idea can do a project. As long as one pursues this idea resolutely."

The preservice primary school teachers hold the view that the project process has some requirements as a team and individually. The elements that make up the team spirit are eligible to team, cooperation, individual responsibility, positive commitment and peer teaching. Individual responsibility, in particular, is seen as a remarkable code. This code

includes both the fact that a team is required for the project and that this team fulfills its individual responsibilities to create a team spirit. Ahmet expressed this view in the following terms: “You know, all of my teammates are like each of them thinks it is their own project. They own it as if it were their own project but at the same time we do group work.” On the other hand, the preservice teachers' views on the project's individual requirements formed the codes of readiness, perseverance, entrepreneurship, risk taking and risk management. Especially Ayşe’s views on risk management are as follows: “An entrepreneur needs to be able to take risks. A person who writes a project should also be able to take risks. That's why you always have to have a plan 'B' against the risks.”

Preservice Primary School Teachers’ Experiences of Preparing a Project Proposal

Findings for the second research question, i.e. “What are the experiences of the preservice primary school teachers regarding the preparation of a project proposal?” are presented in three tables in line with the interview questions. Table 3 shows the findings on how the preservice primary school teachers developed the idea of the project and the idea of transforming this idea into a project proposal.

Table 3.

The Process of Transforming the Idea into a Project Proposal

Theme	Category	Code
Identification of the Project Idea	The process of limiting the research topic	Starting with the idea of a broad topic
		Recognizing the need to limit the scope
		Widening of perspective, narrowing of scope
		Reflection of previous project experiences
	Supporters in limiting the topic	Literature review
		The guidance offered by an advisor
Prejudices in limiting the topic	The need to limit the subject with the support of the advisor	
	Emergence of new project ideas from completed projects	
	Inspiration from the studies in the relevant literature	
Transformation of the Project Idea into a Project Proposal	Project team	Frustration due to narrowing of scope
		The idea that the project should include a wide range of topics
		Search for a project team
		Creating the project team
	Team spirit	Determining a project coordinator
		Happiness arising from being part of a team
Team spirit	Individual responsibility	
	Respect for different ideas	
	Making decisions together	
	Working together	
		Positive commitment

	Creation of a collaborative product Ownership of a collaborative product Distribution of tasks
Challenges	Identifying a title Writing the method Uploading files to the system Preparation within a limited time Preparing proposals online Heavy workload caused by being a senior-year student
Supporters	Academic staff
Self-Improvement	Literature review Risk management Leadership
	Using online media Using a word processor Using Web 2.0 tools

When Table 3 is examined, it is observed that the opinions of the preservice primary school teachers on the process of transforming project ideas into proposals are gathered under the themes of identification of the project idea, transforming the project idea into a project proposal, and self-improvement. While it is seen that various factors are effective in limiting the subject, it is observed that there are some prejudices as well as supporters in this process. While Ahmet expressed the fact that initially they began with a broad idea as: "Our first idea was so broad and comprehensive that we were quite proud after we came up with that idea, so we created such a comprehensive thing, our teachers will like it or something. We had thought too broadly.", the disappointment experienced due to the narrowing of the scope and the realization that the scope should be limited afterwards were reflected in Ali's statements as "... we thought quite broadly on the project idea, we had rather crazy ideas. We wanted to achieve greater things. But then, when we narrowed down our project idea, we hadn't expected what we found. But still, we accomplished a lot even in that state. When we came to the end of the project, we really said, yes, we did it. If we had had difficulty doing even that, how could we have accomplished what we had in mind?". Asli, on the other hand, summarized this situation as, "Actually, our perspective has broadened, but our scope has shrunk."

In the process of transforming the project idea into a proposal, emphasis was placed on the project team and team spirit, and it is seen that various supporters also played a role besides various difficulties. Ahmet, from whom the project idea came, emphasized the importance of the project team, saying, "... the first thing that came to my mind was, with which friends can we do this? With whom can we carry out this project smoothly? You know, choosing friends who can own and see that project as their own. Indeed, I first thought about choosing those friends...". Ali, on the other hand, expressed the positive commitment of the team: "We all worked in our separate ways, with great

devotion, as much as we could, with team spirit, without any problems. We became a team that got along very well without any fights or noise". Individual responsibility, which is one of the elements that constitute the team spirit, was expressed in Ayşe's views as "... while we were doing this job, we all undertook duties and took responsibility for this...". Regarding the ownership of the product that was created as a team, Ayşe said, "Well... I think we did a really good job and ..." whereas Ali expressed his opinion as, "... our common opinion with our group friends was... if these projects have been accepted, ours will be, too. We did it well; ours turned out very nice.". These statements can be interpreted as preservice teachers' adopting team spirit during the process of project proposal preparation. The findings regarding the experiences of the preservice primary school teachers regarding the project proposal preparation process are given in Table 4.

Table 4.

The Project Proposal Preparation Experience

Theme	Category	Code
Process	Identification of the topic	Beginning as a novice researcher
		Difficulty in clarifying the idea
		Literature review
	Requirement	Expert support
		Distribution of tasks Work Mental activity
Digital Media	Opportunities they offer Their limitations	
Acquirements	21st Century Skills	Tolerance in work sharing
		Peer learning
		Completion of the task as a group
		Shared leadership
	Personal	Collaborative work
Critical thinking Creative thinking Research Self-evaluation		
Personal	Personal	Task responsibility
		Self-knowledge
		Self-confidence

When Table 4 is examined, it is seen that the preservice teachers' opinions about their experiences concerning the project proposal preparation process are gathered under the themes of process and acquirements. It is seen that the process is gathered in the categories of identification of the topic, requirement, digital media and team spirit. The acquirements involve the 21st century skills and personal acquirements categories.

The fact that they were novice researchers at the beginning is reflected in the following terms in Ayşe's statements, "... we thought very broadly at first, as we were novice researchers. We included parents in work; we said that we would reflect on a platform where teachers, parents and students would all be together ...". On the other hand, the difficulty experienced in clarifying the idea is expressed by Ayşe as, "... the most difficult part was determining the scope. I think it was to identify our project precisely ...". Aslı, on the other hand, stated the fact that the process required mental activity, saying "...I think it was, I am speaking about that period, covering the entire pandemic process, the period when my mind worked most actively.'

Regarding the project proposal they prepared by holding meetings in the digital environment, the preservice teachers stated that this environment offered them both opportunities and some limitations. Ahmet made comments on the opportunities offered by the digital environment as, "... if it was face to face, maybe we could get bored very quickly... we were able to share and present the screen in a comfortable way. ... we were more comfortable ... everyone was connecting from their home and I think we managed the process more adequately.", whereas he expressed the limitations of the digital environment as "... If it were for example face-to-face, it could be more interactive and better research."

Ahmet expressed the acquirements of the experience of preparing a project proposal in terms of 21st-century skills such as critical thinking and creative thinking as, "... I think it substantially supports critical thinking and this in turn improves us, too ... an idea is put forward. Then everyone pulls at different ends of that idea, creating different directions with arrows. From that idea, different ideas open up in different directions. ... In this context, I think that it also develops creativity a lot. Because each arrow is a different idea and maybe a different project scope ...". Its developing self-confidence in terms of personal gains is reflected in Ahmet's views as "... during the project process ... when everyone contributes like this ... I really think that self-confidence increases immensely", while its contribution to self-knowledge is reflected in the form of "... doing a project in terms of getting to know ourselves, yes I think it really seems to help a lot.". The findings regarding the feedback received by the preservice primary school teachers from their environment during the process of preparing the project proposal are given in Table 5.

Table 5.

Feedbacks during the Project Proposal Preparation Process

Theme	Category	Code
Environmental impact on the project proposal preparation process	Supportive role	Support from friends
		Support from the family
	Family's meeting with the project	Family's questioning what benefit the project will yield
		Family's questioning how long the project will last

Family's desire to learn about the project process

When Table 5 is examined, it is seen that the findings regarding the feedback received by the preservice teachers from their environment are gathered under the theme of environmental impact on the project proposal preparation process. The categories that constitute this theme are the supportive role the and family's meeting with the project. While it is seen that both families and friends play a supportive role, it can be said that families met the project via various inquiries and a desire to obtain information.

Aslı expressed her family's support in the following terms: "They supported me; they were excited for me. They saw that I was happy to be able to achieve something, and they were happy for me, too." Ayşe, on the other hand, expressed the support of her friends as, "... when I shared it with my friends, they said 'what a beautiful thing', and they congratulated me."

Ali expressed the family's question of what the project would yield for them: "Okay, you are doing this, but why are you doing it? It has taken so long, what good will it do to you? What good is it ". The questioning about how long it would take was reflected in Ayşe's statements as, "When will your work be finished, when will you get up from the computer?".

Preparation of a Project Proposal for Preservice Primary School Teachers

Findings regarding the third research question, i.e. "How do preservice primary school teachers make sense of preparing a project proposal?" are presented in three tables in line with the interview questions. The findings regarding the opinions of the preservice primary school teachers about the preparation of a project proposal after preparing a project proposal are given in Table 6.

Table 6.

"Project Proposal Preparation" After the Preparation of the Project Proposal

Theme	Category	Code
Project Preparation Tool	Drawing a framework	Determining a form
		Creating a plan
		Literature review
	Clarifying the process	Concretizing the project
		Brainstorming
		Reflection of ideas
		Reflection of skills
	Risk management	Anticipating risks
		Taking precautions against risks
	Requirement	Labor

Project Preparation Process	Proposal	Time
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When Table 6 is examined, it is seen that the preservice primary school teachers' ideas on preparing a project proposal after they prepared the project proposal are gathered under the themes of project proposal preparation tool and project proposal preparation process. The preservice teachers mostly expressed their opinions by considering the project proposal preparation form. Aslı, who saw the project proposal preparation form as a tool to reflect her ideas, expressed this opinion of hers as, "I think preparing the project form was the project team's self-expression." Ahmet, on the other hand, who saw it as a tool to reflect the skills, expressed his thoughts as "Preparing a project proposal is actually a platform for a student to develop and reflect his/her skills...". Table 7 presents the findings regarding the opinions of preservice primary school teachers regarding the contributions that preparing a project proposal made to them..

Table 7.

Contributions of Preparing a Project Proposal

Theme	Category	Code
Feelings	Team Spirit	Taking individual responsibility Creating positive commitment Motivation Indirect motivation Creating a group identity Respect
	Personal	Perseverance Creating a work discipline
Skills	Scientific Research	Planning Literature review Using academic language Establishing academic communication Adherence to academic ethics Using the scientific method Citation Developing a data collection tool Risk management
	Higher order thinking	Collaborative work in digital media Creative thinking Making contacts Media literacy Problem-solving Critical thinking Digital literacy Analysis Synthesis

Persuasion
 Self-expression
 Self-knowledge

When Table 7 is examined, it is seen that the findings regarding the preservice teachers' opinions about the contributions of having prepared a project proposal are gathered under the themes of feelings and skills. The theme of feelings involves categories of team spirit and personal feelings. On the other hand, the categories that make up the skills theme include scientific research skills, higher-order thinking skills, and technology use.

It was found that the preservice primary school teachers developed team spirit in the process of preparing the project proposal. The preservice teachers stated that they exhibited positive commitment as a team, motivated each other, experienced indirect motivation, formed a group identity and respected each other. The preservice teachers held the view that while this team spirit was being formed, they also took on their own responsibilities and contributed to the team spirit with their sense of individual responsibility. Ahmet expresses these views on the code of individual responsibility in his following statements: "A common aspect of all of us is that we hold on to the job as if it were our own. On the other hand, a different aspect of us is that we all have different dreams and ideas. Making that idea something different with them, together as a group."

The preservice teachers stated that preparing a project proposal also enabled them to better know themselves. Ahmet's views in this regard can be seen in his remarks: "It allows one to discover one's hidden or undiscovered features..." and "Well, yes, doing a project really seems to contribute a lot in terms of getting to know ourselves." These quite noteworthy remarks show how preparing a project proposal may contribute to individuals.

The preservice teachers stated that the project proposal preparation process contributed to themselves, especially in predicting and managing risks. Ayşe stated this: "An entrepreneur needs to be able to take risks. A person who writes a project also needs to be able to take risks. That's why there should always be a plan B against risks."

The findings regarding the opinions of the preservice primary school teachers about the reflections of having prepared a project proposal on the learning-teaching processes in their teaching careers are given in Table 8.

Table 8.

Reflections of Preparing a Project Proposal on Teaching Career

Theme	Category	Code
Reflections on career	Guidance	Aimed at curriculum acquisitions
		Aimed at early acquaintance with the project
		Aimed at solving problems with the project
		Aimed at developing a project culture

	Aimed at the authentic context
	Aimed at all courses
	Aimed at interdisciplinary projects
Personal-development	Developing a self-efficacy belief regarding the project
	Project planning
	Managing the project risks
	Conducting the project with a team
	Innovative thinking

When Table 8 is examined, it is seen that the findings regarding the reflections of preservice teachers' having prepared a project proposal on the learning-teaching processes in their teaching careers are gathered in the categories of guidance and personal development in the theme of reflections on the career. Ayşe, who was of the opinion that projects could be used as a tool in the incorporation of authentic context into the learning-teaching process in the guidance she will make to her students, said, "... by using the project method, we can actually add real life to our lessons. Actually, I think we can establish an authentic context in our lessons.". Ayşe also expressed the fact that projects could be developed in all school subjects, not limited to a single course, saying, "... I think a project can be created for each course. ... when we think about daily life in all lessons." Findings show that having prepared a project proposal has important implications for preservice primary school teachers in guiding their students throughout their careers.

Preparing a project proposal also contributed to the personal development of preservice primary school teachers in their careers. Ahmet, one of the preservice teachers who stated that their self-efficacy beliefs, especially for preparing projects had improved, expressed this idea of his in the following terms: "... in the future, in my teaching life, will my student ... create a new idea?, ... I can now think about how we can turn it into a project. I can say that it encouraged me as an idea and opened my horizons ...".

Conclusion, Discussion and Suggestions

Projects are important learning tools for acquiring higher-order thinking skills (Bell, 2010). In order to be ready for the present and the future, individuals of all ages need to be involved in project processes. It is seen in the relevant literature that learning through projects is adopted in the pre-school, primary, secondary and higher education processes (Ayaz & Söylemez, 2015; Chen & Yang, 2019; Kaşarcı, 2013; Kokotsaki et al., 2016). In this study, an attempt was made to understand the perceptions of the preservice primary school teachers who had experienced the process of preparing a project proposal about these experiences. The results obtained in the research are presented in line with the research questions.

The results regarding the meaning of the project for preservice primary school teachers indicate that the experience of preparing a project proposal leads to a significant change in the meaning that preservice teachers attribute to the concept of project. The preservice teachers who, prior to this experience, associated the concept of project only with science disciplines and thought that the project required the yielding of a concrete product, changed this view of theirs as a result of their experience in preparing a project proposal. The experience of the preservice teachers in preparing a project proposal has given them various ideas about the requirements of the project. The preservice teachers think that the project requires team spirit and some personal characteristics. The ideas that a good team is indispensable for the project, that the project requires collaborative work, that peer teaching is necessary in the process, and that individual responsibilities should be taken along with positive commitment are among the pre-service teachers' opinions. On the other hand, the participants think that entrepreneurship, taking risks, managing risks and perseverance are personal requirements of the project. In projects that require collaborative learning by their nature, individual characteristics can contribute to the success of the team, provide motivation, contribute to the management of resources, and develop collaborative problem-solving skills (Susilawati et al., 2018). Therefore, it can be said that these views of the preservice teachers reflect the nature of the project, based on their experiences.

Regarding their experience of preparing a project proposal, the preservice primary school teachers stated that they had various difficulties. The most difficult of these was the process of limiting the subject. The preservice teachers who stated that they were novice researchers stated that they started the process with a topic that was too broad to be dealt with in their project, and that the guidance of the advisors and lecturers in the departments and the studies in the literature served as their guides in limiting the subject. In a study conducted by Zorlu and Zorlu (2020) on master's students, it was concluded that the experience of preparing a project proposal contributed to students' identifying feasible project topics. Kadioğlu (2020), on the other hand, concluded that one of the factors affecting the preservice primary school teachers' process of identifying a research topic was a review of the literature. Metin-Peten et al. (2019) stated that the training they gave improved the project preparation skills of the preservice science teachers, and thus, the preservice teachers were able to identify more original project topics. It can be said that the results of the studies in the literature are similar to the results of the current research in revealing the importance of the literature, expert support and experience in determining the topic.

The participants also stated that they experienced difficulties in determining the title, writing the method and uploading the files to the system. In addition, the senior-year participants stated that the busy study schedule required in preparing for the university examination was one of the factors that made the process difficult. In the studies where the opinions of students, preservice teachers, teachers and administrators were taken, it was concluded that the common concerns in the project writing phase were subsumed under the titles of lack of experience, failure to write the proposals in due time, the possibility of not receiving support for the project, financial opportunities and difficulties

and entering the projects into the system (Kadioğlu, 2020; Özel & Akyol, 2016). It can be said that the results reached in this study such as lack of experience, failure to write the proposal in due time and entering the projects into the system are similar to the results of related studies (Kadioğlu, 2020; Özel & Akyol, 2016). The project team's positive team commitment, ownership of the common product they created, and strong belief that the project proposals they prepared would be accepted may have caused them not to have negative feelings and thoughts about financial difficulties and not receiving support for the project.

The preservice teachers who stated that the workload was heavy in preparing a project proposal also thought the process was enjoyable. Their views can be summarized with the phrase "an enjoyable process that requires effort". As a matter of fact, the preservice teachers stated that while transforming the project idea into a proposal, they distributed tasks, took decisions together, and embraced the common product they created. The participants started to feel more confident in being able to identify a project idea with their experience, thought that projects focusing on more specific topics could also be created, and began to view their surroundings as a possible source for a project. In addition, the participants started to see themselves as more competent in taking part in and conducting a project. In a study by Koç et al. (2020), the university students who prepared projects made the following suggestions to students who would do new projects: doing research, not giving up, and managing the process by working within a plan and program. These suggestions support the pre-service teachers' views in the current study, which are defined as "an enjoyable process that requires effort".

When the way the preservice primary school teachers make sense of preparing a project proposal is examined, it is seen that they often emphasize the importance of preparing a project proposal. They state that preparing a written project proposal with a project team plays a critical role in the project process. They further state that the project proposal draws the framework of the project as a means of planning and shaping the project, makes the project process clear by reflecting the ideas and skills like a mirror, and contributes to risk management by doing the planning that will ensure the elimination of risks by anticipating them. The participants argue that preparing a project proposal is critical for the management of the project, and it also makes significant contributions to them.

The experience of preparing a project proposal made the preservice primary school teachers feel more competent in preparing a project proposal and made them competent in finding sources for project ideas. They stated that 21st-century skills such as critical thinking, creative thinking, problem-solving, and communication; scientific research skills such as planning, literature review, academic ethics, academic communication, referencing, data collection tool development, risk management, and digital competencies such as online meeting organization, use of word processors, use of web 2.0 tools and collaboration with cloud storage have improved. In addition, this experience helped them to adopt a team spirit and to get to know themselves better by contributing to their personal development through perseverance, task responsibility and self-confidence. The university students stated that the projects contributed to them in

terms of doing research, gaining self-confidence, experience and knowledge on a certain subject and raising awareness (Koç et al., 2020). Similarly, Odabaşı et al. (2011) stated that the scientific research planning experiences of the preservice teachers gave them scientific research skills ranging from identifying research topics to reporting and writing a bibliography. Kadioğlu (2020) also concluded in his research that being involved in the project process contributed to the preservice teachers' researcher identity, communication skills, self-confidence development and prospective educator identity. It can be said that preparing a project proposal significantly contributes to preservice primary school teachers in terms of 21st-century skills, since similar gains have been achieved in the current research.

The experience of preparing a project proposal has significantly contributed to developing the belief in preservice teachers that they could guide their students in planning and conducting projects with their students in their future professional careers. Baki and Tümer (2009) concluded that teachers do not consider themselves efficient in guiding their students during the project process. For this reason, it is important that preservice teachers, who feel more confident in producing projects in all disciplines and interdisciplinary fields, form the idea that they can develop a project culture among their students in their professional lives. Kadioğlu (2020) also concluded that the project experience will have positive effects on the preservice teachers' future educator identities. It can be said that the research results in the literature related to this aspect are similar to the present research results. It can be thought that the pre-service teachers' preparation of a project proposal in their pre-service training will positively affect their beliefs about encouraging their students to prepare projects in the future and guiding this process, regardless of whether the project is accepted or not.

The preservice teachers received positive responses from their environment during the process of preparing the project proposal. The participants stated that the families were able to follow the process and they made an effort to understand what was being done, since they had prepared the project proposal with the meetings they held with their teammates in the online environment. In this process, they stated that their families and friends supported and facilitated the process. Koç et al.'s (2020) study with preservice teachers, which found that family and friends supported the process, supports this result. This situation shows that the friends and families of the preservice primary school teachers provide supportive environments for developing project proposals.

Significant results were obtained individually and professionally in this study. The perceptions of the preservice primary school teachers who prepared a project proposal regarding this experience tried to be understood in depth. The following suggestions have been made for the discipline and researchers based on the results of this study, which reveals what kind of effect was created on four preservice primary school teachers when they prepared a project proposal within the scope of TÜBİTAK 2209-A while they were still preservice teachers during their undergraduate education, and its possible effects on their professional lives:

Suggestions for the discipline:

- After the pre-service teachers set out with a project idea that was too broad to be handled in one project, their academic advisors and the instructors of the department played an important role in the process of limiting the topic. In order to guide undergraduate students in the project development process, members of the education faculty should be encouraged to gain project proposal/project preparation experience and to transfer all kinds of experiences they have gained in this process to their colleagues working in different institutions as well as in their institutions. In this framework, seminars/workshops can be organized where all positive and negative experiences in the process can be shared face-to-face or online.
- A project culture should be popularized among preservice teachers through peer learning. In this regard, activities such as seminars or workshops can be organized. Preservice teachers can share their experiences with other preservice teachers on appropriate platforms, face-to-face and online.
- Preparing a project proposal will contribute to the preservice teachers individually and professionally in many ways. Moreover, the fact that projects to be conducted can be counted in place of courses with appropriate content in their programs and the offering of project incentives for these projects, too, will encourage preservice primary school teachers to prepare more project proposals.

Suggestions for researchers:

- Longitudinal studies can be conducted that comparatively examine the experiences of preservice teachers who prepared project proposals in their undergraduate education and who later prepared projects with their own students during their teaching careers.
- Studies can be conducted to investigate which stakeholders can provide support to the projects, apart from supportive elements such as peers, academic advisors, and family in the process of preparing a project proposal.
- While pre-service teachers' perceptions towards preparing a project proposal have been revealed in this study, studies can also be conducted to investigate how this process is reflected in the preservice teachers' skills such as decision-making, problem-solving, communication, and cooperation.
- It can be suggested that researchers with experience in this type of project construct their designs on interpretive phenomenology with similar studies.
- Depending on the increase in the number of such qualitative studies in the field, studies of meta-thematic analysis can be conducted.

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Genişletilmiş Türkçe Özet

Proje yoluyla öğrenenler yaşamlarında karşılaştıkları problemlere yaratıcı çözümler üretebilir ve aktif öğrenen bireyler olurlar (Barak ve Dori, 2005; Bell, 2010; Schneider vd., 2002; Zohar ve Nemet, 2002). Projeler motivasyonu üst düzeyde tutarak daha etkili öğrenmeye yardımcı olur (Bell, 2010). İlkokul yıllarından başlayarak proje kültürüne sahip nitelikli bireylerin yetiştirilmesi, bir ülkenin kalkınabilmesi bakımından önemli bir husustur (Özden, 1999). Öğretmenlerin, yetiştirecekleri bireylerle benzer şekilde yaşamda bulunan problemlerin çözümü için gerekli duyarlılığı gösteren ve bu problemin çözümü için gerekli donanıma sahip bireyler olması önemlidir (Güven, 2013). Öğretmen adaylarının lisans eğitimi sürecinde nitelikli bir eğitim alarak alanıyla ilgili problem çözebilmeleri onların iyi birer proje geliştiricisi olmalarıyla ilişkilidir. Alanyazında farklı branşlarda görev yapan öğretmenler ve öğretmen adaylarının çeşitli konu alanlarında proje geliştirme ve proje hazırlama süreçlerine yönelik çalışmalar yer almakla birlikte (Metin-Peten vd., 2019; Mirici vd., 2019; Sağdıç vd., 2017; Timur ve İmer Çetin, 2017) sınıf öğretmeni adaylarının yer aldığı bir çalışmaya gereksinin duyulmuştur. Bu araştırmanın amacı proje önerisi hazırlamayı deneyimleyen sınıf öğretmeni adaylarının bu deneyimleri hakkındaki algılarını derinlemesine anlamaya çalışmaktır.

Araştırma nitel araştırma desenlerinden fenomenolojik desene uygun olarak tasarlanmıştır. Fenomenoloji, bireylerin bir kavram veya fenomene yönelik deneyimlerini ortaya çıkarır (Cresswell, 2007). Bireylerin fenomeni nasıl algıladıkları, nasıl betimledikleri, fenomen hakkında ne hissettikleri, fenomeni nasıl yargıladıkları, nasıl anımsadıkları, nasıl anlamlandırdıkları ve diğerleriyle fenomen hakkında nasıl konuştukları fenomenolojinin temel odak noktasını oluşturmaktadır (Patton, 2018). Bu çalışmada fenomen proje önerisi hazırlamadır. Fenomenolojik araştırmalar betimleyici ve yorumlayıcı fenomenoloji olmak üzere iki farklı şekilde ele alınabilmektedir. Reiners (2012) betimleyici fenomenolojinin epistemolojik bir bakış açısına sahip olduğunu ve bireylerin bildikleri şeyin ne olduğu ile ilgilendiğini belirtmektedir (Aktaran Ersoy, 2019). Sınıf öğretmeni adaylarının proje önerisi hazırlama deneyimleri hakkındaki algılarının derinlemesine anlaşılmasını amaçlayan bu araştırma betimleyici fenomenoloji desenine uygun olarak gerçekleştirilmiştir.

Çalışma grubunu; bir devlet üniversitesinde sınıf öğretmenliği programında öğrenim görüyor olma, lisans öğrenimi boyunca en az bir kez proje önerisi hazırlanması aşamasında proje ekibinde yer alma ve proje önerisi değerlendirme sürecinin sonuçlanmamış olması ölçütlerine uygun olarak belirlenen dört sınıf öğretmeni adayı oluşturmaktadır. Katılımcıların belirlenmesi sürecinde Google anket aracılığıyla oluşturulan anket ilgili üniversitede sınıf öğretmenliği programında öğrenim gören tüm öğrencilere iletilmiştir. 102 öğrencinin katılım gösterdiği ankette belirlenen ölçütler doğrultusunda araştırmaya katılmak için gönüllü olan dördüncü sınıftan üç ve üçüncü sınıftan bir olmak üzere dört öğretmen adayı araştırmaya dahil edilmiştir.

Araştırmada veriler görüşmeler aracılığıyla toplanmıştır. Öncelikle tüm katılımcıların yer aldığı bir odak grup görüşmesi yapılmış, ardından katılımcılarla bireysel olarak yarı-yapılandırılmış görüşmeler gerçekleştirilmiştir. Verilerin toplanması sürecinde

araştırmacılar tarafından geliştirilen yarı yapılandırılmış görüşme formu kullanılmıştır. Elde edilen veriler içerik analizine tabi tutulmuştur. İçerik analizi süreci verilerin kodlanması, temaların bulunması, kodların ve temaların düzenlenmesi ve bulguların tanımlanması ve yorumlanması şeklinde gerçekleştirilmektedir (Yıldırım ve Şimşek, 2018). Bu araştırmada da elde edilen veriler kodlanarak belli temalara ulaşılmıştır. Verilerin yazıya aktarılmasıyla başlayan analiz süreci araştırmacılar tarafından tam olarak anlaşılincaya kadar birkaç kez okunmasıyla devam etmiştir. Bu okumalar yapılırken kodlama yapılabilmesi amacıyla metnin yanına çeşitli notlar alınmıştır. Bu notlar doğrultusunda anlamlı içerik oluşturduğu düşünülen ifadeler analiz birimi olarak belirlenmiştir. Aynı işlemler sınıf öğretmenliği alanında uzman olan bir araştırmacıya da yaptırılmıştır. Bu araştırmacıyla bir araya gelinerek yapılan kodlamalar karşılaştırılmıştır. Miles ve Huberman (2019) tarafından belirtilen Güvenirlik= Görüş Birliği/ (Görüş Birliği + Görüş Ayrılığı) formülüne göre kodlayıcılar arası tutarlık %90'a ulaşincaya kadar kod ve temalarda düzenleme yapılmıştır. Son durumda kodlayıcılar arası tutarlılık %93 olarak belirlenmiş ve böylece kodlayıcılar arası tutarlık sağlanmıştır.

Araştırma Sakarya Üniversitesi Rektörlüğü Etik Kurulunun 03.02.2021 tarih ve 31 sayılı toplantısında alınan 59 no.lu karar ile onaylanarak verilen izni ile gerçekleştirilmiştir. Bu iznin ardından katılımcılar belirlenmiş ve katılımcılardan sanal ortamda çalışmaya katılmak için gönüllü olduklarına dair yazılı onam alınmıştır. Ayrıca katılımcılar yapılan çevrimiçi görüşmelerin başlangıcında bu araştırmaya katılmaya gönüllü olduklarını ve görüşmelerin kayıt altına alınmasını kabul ettiklerini sözlü olarak teyit etmişlerdir.

Elde edilen sonuçlar sınıf öğretmeni adaylarının, proje hazırlama deneyimi öncesinde projeyi sadece fen bilimleriyle özdeşleştirdiği ve projenin somut bir nesne ortaya konulmasını gerektirdiği düşüncesine sahipken deneyimleriyle bu düşüncelerinin değiştiğini göstermektedir. Katılımcılar iyi bir ekibin proje için olmazsa olmaz olduğu, projenin işbirlikli çalışmayı gerektirdiği, süreçte akran öğretiminin gerekli olduğu ve olumlu bağlılıkla birlikte bireysel sorumlulukların da alınması gerektiğini ifade etmektedir. Katılımcılar bireysel olarak ise girişimci olma, risk alma, riskleri yönetebilme ve sebat etmenin projenin gerekliliklerinden olduğunu düşünmektedir.

Sınıf öğretmeni adayları proje önerisi hazırlarken en çok konuyu sınırlandırma sürecinde zorlandıklarını ifade etmiştir. Zorlu ve Zorlu (2020) yüksek lisans öğrencileriyle yaptığı çalışmada proje önerisi hazırlama deneyiminin öğrencilerin gerçekleştirilebilir proje konuları belirlemeye katkı sağladığı sonucuna ulaşmıştır. Kadioğlu (2020) ise öğretmen adaylarının konu belirleme sürecinde etkili olan faktörlerden birinin alanyazın taraması olduğu sonucuna ulaşmıştır. Metin-Peten vd. (2019) vermiş oldukları eğitimin fen bilgisi öğretmen adaylarının proje hazırlama becerilerini geliştirdiğini ve böylece öğretmen adaylarının daha özgün proje konuları belirleyebildiklerini ifade etmişlerdir. Konuyu belirleme sürecinde acemi araştırmacıların zorluk yaşadığı ve desteklenmesi gerektiğine yönelik sonuçlar alanyazında yer alan sonuçlarla benzerlik taşımaktadır. Ayrıca son sınıfta olan katılımcılar merkezi sınava hazırlanmanın verdiği yoğunluğun süreci zorlaştıran etmenlerden olduğunu ifade etmişlerdir. Proje önerisi hazırlama sürecinde iş yükünün fazla olduğunu ifade eden öğretmen adayları sürecin aynı zamanda keyifli

olduğunu da düşünmektedir. Onların bu görüşleri “emek gerektiren keyifli bir süreç” tanımlamasıyla özetlenebilir.

Sınıf öğretmeni adayları proje önerisi hazırlamanın proje süreci için kritik bir rol oynadığını ifade etmişlerdir. Proje önerisinin projeyi planlama ve şekillendirme aracı olarak projenin çerçevesini çizdiğini, bir ayna gibi fikirlerin ve becerilerin yansımaları sağlayarak proje sürecini belirginleştirdiğini ve riskleri öngörerek giderilmesini sağlayacak planlamayı yapıp risk yönetimine katkı sağladığını ifade etmişlerdir. Proje önerisi hazırlama deneyimleri sınıf öğretmeni adaylarının proje önerisi hazırlamaya yönelik kendilerini daha yeterli görmelerini sağlamış ve onları proje fikri kaynağı bulmada daha yetkin hale getirmiştir. Katılımcılar eleştirel düşünme, yaratıcı düşünme, problem çözme, iletişim gibi 21. yüzyıl becerilerinin; planlama, alanyazın taraması, akademik etik, akademik iletişim, kaynak gösterimi, veri toplama aracı geliştirme, risk yönetimi gibi bilimsel araştırma becerilerinin ve çevrimiçi toplantı düzenleme, kelime işlemci kullanımı, web 2.0 araçlarının kullanımı ve bulut depolama ile ortak çalışma gibi dijital yetkinliklerinin geliştiğini ifade etmişlerdir. Proje önerisi hazırlama deneyiminin öğretmen adaylarının mesleki kariyerlerinde kendi öğrencileriyle proje üretme sürecinde öğrencilerine rehberlik yapabilmeleri konusunda inançlarının gelişmesine önemli yansımaları olmuştur. Akran öğrenimi aracılığıyla öğretmen adayları arasında proje kültürü yaygınlaştırılması araştırmanın önerileri arasındadır.

Ethics Committee Approval: The research was conducted with the permission of the Ethics Committee of Sakarya University Rectory, approved by the decision numbered "59" taken at the meeting no: 31 dated 03.02.2021.

Informed Consent: Informed consent was obtained from the participants.

Authors' Contribution: 1st author: %33,33; 2nd: %33,33 ; 3^{tr}: %33,33

Peer-review: This study was peer-reviewed.

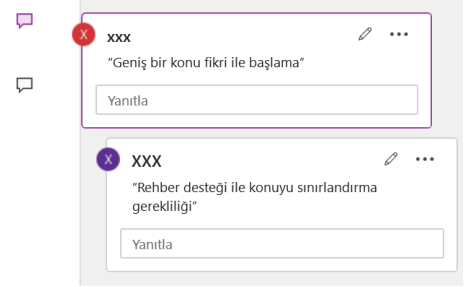
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Appendix 1.

Hatta ilk fikrimiz o kadar geniş ve o kadar kapsamlıydı ki biz o fikri oluşturduktan sonra bayağı da böyle biraz gururlanmıştık yani böyle kapsamlı bir şey oluşturduk, hocalarımız beğenecek falan böyle. Acayip de kapsamlı düşünmüştük ama ertesi gün tekrar bir proje fikrini daha da daraltmamız gerektiğini, daha özel indirgememiz gerektiğini anlamıştık hani ...



Appendix 2.

	A	B	C	D	E	F	G	H	I	J
	Sakarya Üniversitesi Eğitim Fakültesi Temel Eğitim Bölümü Sınıf Öğretmenliği Programında m	Kaçıncı sınıf düzeyinde öğrenim görüyorsunuz?	Lisans eğitiminiz boyunca proje ekibinde yer alarak proje önerisi hazırlayıp başvuru yaptınız mı?	Proje hangi kapsamda bir projeydi?	Bu süreçte rotünüz neydi?	... tarafından yapılması planlanan "Sınıf Öğretmeni Adaylarının Proje Önerisi Hazırlamaya Yönelik Akademi" çalışması kapsamında gönüllü olarak projede katılımcı olarak yer almak ister misiniz? Çalışmada elde edilen bilgiler tamamen bilimsel araştırma kapsamında kullanılacak olup kişisel bilgileriniz gizli tutulacaktır. Çalışma boyunca herhangi bir aşamada çalışmadan ayrılabiliyorsunuz. Çalışmaya ilgili daha detaylı bilgi almak isterseniz ... adresine e-posta gönderebilirsiniz.	Proje önerisini yaklaşık olarak hangi tarihte sundunuz?	Ad-Soyad	Cep Telefonu Numarası	E-posta adresi
1	Evet	4. Sınıf	Evet	TÜBİTAK 2209-A	Proje ortağı	Evet, gönüllü olarak bu çalışmaya katılmak istiyorum.	25.01.2021	...	...	...
2	Evet	4. Sınıf	Evet	TÜBİTAK 2209-A	Proje ortağı	Evet, gönüllü olarak bu çalışmaya katılmak istiyorum.	25.01.2021	...	...	...
3	Evet	4. Sınıf	Evet	TÜBİTAK 2209-A	Proje yürütücüsü	Evet, gönüllü olarak bu çalışmaya katılmak istiyorum.	25.01.2021	...	...	...
4	Evet	3. Sınıf	Evet	TÜBİTAK 2209-A	Proje yürütücüsü	Evet, gönüllü olarak bu çalışmaya katılmak istiyorum.	25.01.2021	...	...	...
5	Evet	4. Sınıf	Evet	TÜBİTAK 2209-A	Proje Üyesi	Evet, gönüllü olarak bu çalışmaya katılmak istiyorum.	25.01.2021	...	...	...
6	Evet	1. Sınıf	Evet	bulduğum il genelinde okullar arası panel ve mulakat çalışması	Proje yürütücüsü	Hayır, çalışmaya katılmak istemiyorum.	2018-2019	...	...	...