



Journal of Educational Studies and Multidisciplinary Approaches (JESMA)

www.jesma.net

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Cüneyt ÇAPRAZ ¹
Aslıhan KILIÇ ²

To cite this article:

Çapraz, C. & Kılıç, A. (2023). An investigation of research/scientific publication processes of faculty members. *Journal of Educational Studies and Multidisciplinary Approaches (JESMA)*, 3 (1), 55-82. <https://doi.org/10.51383/jesma.2023.79>

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¹ Assist. Prof. Dr., Alanya Alaaddin Keykubat University/Faculty of Education, Antalya, Türkiye, cuneyt.capraz@alanya.edu.tr

² Research Assistant, Alanya Alaaddin Keykubat University/Faculty of Education, Antalya, Türkiye, aslihan.kilic@alanya.edu.tr

An Investigation of Research/Scientific Publication Processes of Faculty Members

Cüneyt ÇAPRAZ <https://orcid.org/0000-0002-4668-5805> 

Ashhan KILIÇ <https://orcid.org/0000-0001-9953-7833> 

ARTICLE INFORMATION

Original Research

DOI: 10.51383/jesma.2023.79

Received 20 December 2023

Revision 10 February 2023

Accepted 22 March 2023

ABSTRACT

In this study, the reasons for faculty members to start a research paper, the factors they consider when determining the research methods, whether they prefer to use any particular research method, the parts of their research with which they have difficulty, their feelings about the research during the research process, and the challenges they face while conducting research were examined. The basis of this study was a case study. The research study group consists of 19 faculty members who work in the education faculty of a university in Türkiye. Research data were collected through semi-structured interviews and analyzed using content analysis. According to the findings of the study, faculty members start a research paper with the intention of satisfying their curiosity, solving a problem, filling gaps in the field, contributing to the field, and meeting needs. Faculty members give careful consideration to the problem at hand when deciding on the research methods. Almost all faculty members prefer to primarily use a particular research method. In their research, faculty members have the most difficulty with the methods, introduction, and discussion sections, respectively. It has been determined that the predominant emotions faculty members experience during the research process are mainly excitement, pleasure/enjoyment, boredom, happiness, and curiosity. During their research, faculty members often run into problems with technology, funding, bureaucracy, getting their research published, and managing their time.

Keywords: Scientific research, scientific research process, scientific research methods, faculty members, problems of academics



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Introduction

Universities assumed their current mission and duties in three basic stages: providing education, conducting research and contributing directly to economic and social development (Sakinç & Aybarç Bursalıoğlu, 2012). Universities with scientific autonomy and public legal personality have responsibilities including conducting educational activities, scientific research, publication, and consulting (Arı, 2007; Tuzgöl Dost & Cenkseven, 2007; Higher Education Law, 1981: Article 3, d; Akçığıt & Özcan Tok, 2020). In order for higher education institutions to fulfill their stated responsibilities, faculty members/academics working in these institutions have duties and responsibilities. The duties and responsibilities of faculty members include lecturing, educating individuals who will practice professions, conducting scientific research, serving the society, providing consultation, and raising future scientists (Arı, 2007; Erdem, 2005; Gillespie, Walsh, Winefield, Dua & Stough, 2001).

Research is one of the most essential activities of universities and scientists (Öztürk, 2015). Universities are scientific research assemblies (Akçığıt & Özcan-Tok, 2020). Öztürk (2008) describes the fundamental responsibilities of an academician/faculty member using the metaphor of five fingers: The thumb represents the duties of an academician to do research, the index finger to teach, the middle finger to write, the ring finger to orator, and the pinky to succession. Therefore, conducting research is the major responsibility of an academic, and it is the most fundamental characteristic that differentiates him from a teacher. The academician is in the position of producing new knowledge, as opposed to disseminating knowledge already produced.

When the literature is examined, many definitions of "research" are encountered. In general, research is the process of collecting and analyzing data in order to gain an understanding of a topic or event (Creswell, 2012). In accordance with a format that has been used for more than a century, the primary structure of a scientific research or article consists of an introduction, a method, findings, a conclusion, and discussion sections (Karaman as cited in Tiryaki, 2014). It is essential that each section of an article is properly prepared and reflects the article as a whole, so that the piece does not alienate the reader, the message it gives can be understood well, and the article is worth reading (Tiryaki, 2014).

The foundation universities that started to be opened in the 1980s and the state universities that were opened as of the beginning of the 2000s are within the scope of the "A university for every city policy". With the adoption of this policy, it is aimed to increase the number of academic publications and citations belonging to the Turkish scientific world, to increase the number of industrial rights registrations of domestic companies, especially patents, and to make techno-cities and organized industrial zones scientifically attractive (Türkcan 1998, Türkcan 2009 & Çelik ve Tekeli, 2009 as cited in Yalçintaş and Akkaya, 2019). The most extensive increase in the number and quota of higher education institutions in Türkiye started in 2006, except for 23 universities established in 1992 (Çetinsaya, 2014). It is possible to say that the years 1992 and 2006 in Turkish higher education were at an important point in terms of the increase in the number of universities. As of 2018, there is no city in Türkiye that does not have a university (Günay & Günay, 2011).

In the second half of the 1980s, the number of scientific publications originating from Türkiye increased significantly. This increase in scientific publications indicates that Türkiye has become more recognizable internationally (Orer, 2011). However, Türkiye's scientific publication performance has declined since 2006. The rapid quantitative expansion of Türkiye's higher education capacity in 2006 and subsequent years was not accompanied by a rapid qualitative expansion. The ability of Türkiye to compete with developed countries is contingent upon continued scientific growth and development. Even though the number of scientific studies in Türkiye is increasing, this increase is insufficient. To ensure that Türkiye is among the leading countries in scientific research, the missing and failed components must be identified and addressed (Akçığıt & Özcan-Tok, 2020).

In Turkish universities, teaching activities are typically more significant than research activities. Sometimes this is due to necessity. In a higher education system that focuses on teaching, faculty members cannot commit sufficient time to research. Excessive course loads and an excess number of students are the main reasons for this situation (Al, 2008; Tuzgöl Dost & Cenkseven, 2007). This situation is also one of the primary causes of the decline in academic productivity since 2006. Academic production was negatively affected by the fact that the increase in the number of academics at universities was smaller than the increase in the number of students (Akçigit & Özcan-Tok, 2020).

The aim of this study is to examine the scientific publication and research processes of education faculty members engaged in scientific research in the field of education. Higher education institutions like universities are meant to teach, do research, and improve the quality of social service. With all of these demands, expectations, and goals in mind, it is important to look at the scientific research and publication processes of faculty members and figure out what problems they run into. This will help improve the quality of service provided by universities, which are the most important places to train the workers needed in every field. In order to increase academic productivity and publication quality in Türkiye, it is necessary to examine the scientific research processes of faculty members and to identify the difficulties they encounter during this process. It is hoped that this study, which focuses on the research and publication processes of education faculty members, will provide a better understanding of faculty members' research processes and contribute to research aimed at resolving the issues they encounter during their research processes. In this study, answers to the following questions were sought.

Research Questions

1. What are the reasons given by faculty members for starting a research?
2. What are the points that faculty members consider while determining their research methods?
3. Is there a particular research method that faculty members prefer to use in their research? What are the reasons for this?
4. In which parts of the research do faculty members have difficulty?
5. How do faculty members feel about research during the research process?
6. What challenges do faculty members face while conducting their research?

Methods and Materials

In this study, the qualitative research model served as the basis, and the interview technique, one of the qualitative data collection methods, was used. Qualitative research focuses on processes rather than products or outputs. Therefore, meanings are crucial in qualitative research (Merriam, 2009/2015). Interviews are frequently preferred because they facilitate the acquisition of detailed information on a certain subject (Yıldırım & Şimşek, 2016) and provide specific data collection from each participant (Merriam, 2009/2015).

Participants

The study group of the research consists of 19 faculty members working in a faculty of education, in Türkiye. The study group of the research was determined using criterion sampling, which is one of the purposive sampling methods. People, events, objects, or situations indicated by the nature of the research problem are sampled using the criterion sampling method (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2018). In the study, the criteria determined by the researchers in the selection of the participants, having studies in the field of educational sciences, having at least 3 years of experience, being in different departments and having different titles, constituted the basic criteria of the research. Table 1 displays the distribution of academicians participating in the study according to their departments and titles.

Table 1. Distribution of Academics Participating in the Study by Department and Title

Department	Academic Title			Total
	Prof.	Associate Prof.	Assistant Prof.	
Elementary mathematics teaching			2	2
Science teaching	1		2	3
Turkish teaching		1	1	2
Psychological counseling and guidance			2	2
English teaching		1	1	2
Classroom teaching		1		1
Pre-school teaching			3	3
Educational sciences	1	1	2	4
Total	2	4	13	19

Data Collection Tools

Within the scope of the study, interviews in a semi-structured format were conducted. For these interviews, the researchers produced a semi-structured interview form with four questions, which is thought to reveal the goal of the research, and three experts reviewed the form. Four questions on the form were revised in accordance with expert opinions, and an interview form with 7 questions was prepared. However, during the data analysis, it was seen that the participants gave similar answers to two separate questions in the interview. Due to their similarity, two research questions were analyzed as if they were a single question.

Data Analysis

The research data were looked at using the content analysis method, which is one way to look at qualitative data. Semi-structured interviews with the participants were audio-recorded, transcribed and analyzed. Two researchers independently examined the interviews, and the results were compared. A concordance of more than 90% was found between the analyses of both researchers. The inconsistencies that emerged in this process were discussed and resolved, and the analysis of the interview data was completed. Finally, the collected data were summarized according to the themes determined based on the interview questions, and were often described and interpreted by using direct quotations. Since the faculty members have statements that will correspond to more than one code under a theme and category, there are variations in the themes, categories, and code frequencies in the tables presented in the findings section.

Ethical Considerations

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. None of the actions stated under the title "Actions Against Scientific Research and Publication Ethics", which is the second part of the directive, were not taken.

Ethical review board name: Alanya Alaaddin Keykubat University Social and Human Sciences Scientific Research and Publication Ethics Committee

Date of ethics review decision: 08.06.2021

Ethics assessment document issue number: 2021/23

Findings

Within the scope of this study, it was seen with 19 faculty members working in a Faculty of Education, in Türkiye. Each of the faculty members interviewed was given a number from 1 to 19. For example, Faculty Member 1, Faculty Member 2, etc. In presenting the research's findings, F.M. is short for faculty member.

Examining the Statements of Faculty Members Regarding the Reasons for Starting a Research Paper

In the study conducted, the motivations for education faculty members to start a scientific research paper were investigated. The analysis of the statements of the faculty members on the subject is shown in Table 2:

Table 2. Statements of Faculty Members Regarding the Reasons for Starting a Research Paper (N=19)

	(n)
The desire to satisfy curiosity	11
The desire to fix an issue/problem for the area	8
Detection of missing/gap for the area	8
Willingness to contribute to the field/science	6
Determining the need for the field	4
Desire for academic advancement	2
The research is a professional necessity	1
Suspicion of knowledge in the literature	1
Willingness to do research in the courses conducted	1
Willingness to conduct research in the areas of interest of graduate students under supervision	1

When Table 2 is examined, it is seen that the main reason for the faculty members to start a scientific research paper is to satisfy their curiosity (n=11). F.M.14 explained how he started a research based on a subject based on his curiosity: "There is usually a subject that I am curious about. If I'm curious, I see what has been accomplished. If there is nothing that satisfies my curiosity, I try to do something about it myself." It was observed that the variables that most stimulated the curiosity of faculty members were their reading of literature and the topics linked to their fields of interest. F.M.15 stated that the effective force in starting a research paper is the sense of curiosity generated by the literature readings as follows: "In general, it is curiosity... I closely follow the research related to my field. What is being done in the country, what is being done internationally... Whenever I encounter an interesting concept or problem while investigating and researching these, I wonder what kind of structure that concept has and how it works in practice. To resolve this, I use it as a starting point for a new research paper." The opinion of F.M.17, who indicated that he started his research out of a sense of curiosity about the topics he was interested in, is as follows: "The research topic is significant to me. Because conducting research in an area

that interests me is more appealing and desirable. In this way, as I work with certain notions, the difficulties associated with them capture my attention." Curiosity also motivates faculty members to research their observations in their social surroundings and field of study, as well as the situations they encounter throughout their classes. F.M.8 said that his research is based on the confidential observations he made by stating that *"Perhaps I have been secretly gathering information from somewhere. How did I come up with that? When a lightbulb like this comes on, I ask myself, -Can I make a connection between them?-"*

The desire to address a problem in the field of study is one of the primary motivations for faculty members to do research (n=8). F.M.19 expressed his opinion on this issue as follows: *"The problems... The problems within the system also lead you to research. When we refer to a problem, we truly mean to improve the system based on the problem. In other words, the improvement process begins with the identification of the problem. You must be able to identify the areas where improvement is possible."* Some faculty members stated that they were able to recognize these problems during their courses, school and environment observations, literature readings, and discussions with their colleagues. F.M. 18 explained the situations in which he might encounter a problem as follows: *"I come across these problems when I meet teacher candidates in a class, or sometimes when I go to schools and observe students. Sometimes I see these problems while discussing with my academic friends and colleagues."* F.M.13 explains how he detects the problem as follows: *"The problems I observe in society... The things that are not right that I notice around me... I focus on these issues."*

The realization of a deficiency/gap in their field of study (n=8) is an additional major factor that motivates faculty members to conduct research. Faculty members reported that they were able to identify this deficiency/gap through their reading of the literature and the courses they teach. F.M.2 stated that he identified a gap in the field of study as follows: *"Before starting a research paper, when we are running the courses together with the known undergraduate education, whether during the course or while completing independent readings, we seek for relevant studies. When we don't find exactly what we desire in the relevant studies, we start to think that we can improve it."* F.M.14 explained that he could focus on the gap in his field in order to produce research that could be published by stating that *"Maybe I can try to understand what is missing in the literature. I'm not curious about the subject, but there are some issues that I've been interested in for a long time, I wonder if what I do will be published, I examine them, and I try to do something about them."*

The desire to contribute to the field of study (n=6) and the field's requirements (n=4) can motivate faculty members to do research. F.M.19 explained that feeling a need is the source of his research as follows: *"A basic need must be felt for research. In other words, the work does not occur if there is no necessity. In actuality, every study has a problem to solve. What we refer to as a problem arises from a need. The most important factor for me is need."* Faculty members can identify these needs based on their own courses, school observations and experiences. F.M.12 explained that he was able to identify the needs of his field through the lessons he taught by stating that *"I focus primarily on teacher education. I am also engaged in the classroom. As an active participant in the class, you engage in conversation with the students and consider their needs. What do they need...? When they learn something that they need, something that they should use when they teach in the future... I am trying to do research on that."* F.M.19, on the other hand, described the effectiveness of school observations in identifying needs as follows: *"I visit schools in accordance with our field of study. I undertake weekly observations at schools, and as a result of those observations, this may be something I require and that my colleagues in those schools feel. Or it may be something that students or administrators need..."*

Additionally, faculty members responded that they conduct research because they desire academic advancement (n=2) and because research is a professional obligation (n=1). The following statement of F.M.1 reveals his thought in this direction: *"First of all, this is our job. In other words, the distinction between university personnel and National Education teachers is that university staff undertake scientific research. I believe that this is vital for professional fulfillment. It is also essential to make contributions to the field. There are, of course, scholarly reasons as well. There are elements and motives, such as intellectual advancement. But I believe the primary purpose for an academic to conduct research is to contribute to the field and fulfill his professional obligations."*

One of the faculty members interviewed said that he could conduct research to verify questionable literature knowledge (n=1). F.M.17 explained that knowledge he encountered and doubted in the literature directed him to research by stating that "I observe a deficiency, gap or mistake in a field, particularly while teaching and reading. Well... I am saying that it shouldn't be like this. Then, I begin by developing a new hypothesis." Another faculty member (F.M.7) stated that he wished to do research within the framework of the courses he taught and that he could start a new research paper in this area: "*Sometimes the course I will teach, especially the elective course, can lead me to conduct research... I wonder if I can conduct research in this course?*" F.M.7 also stated that he conducts research on topics of interest to students in order to assist the students he supervises.

Examining the Statements of Faculty Members Regarding the Issues They Considered While Determining Their Research Methods

Second, within the scope of this study, the factors faculty members consider while determining their research methods were investigated. The faculty members' perspectives on the topic were examined and given in Table 3:

Table 3. Statements of Faculty Members Regarding the Points They Paid Attention to While Determining Their Research Methods (N=19)

	(n)
Choosing the appropriate method for the problem	14
Approaching the problem with a particular paradigm	8
The time the research will take	4
Characteristics of the participants	3
Examining similar studies	3
Possibilities available	2
Choosing a suitable method for application	2
Examination of method resources	2
Expert opinion	2
Choosing the easiest method	1

According to Table 3, the majority of faculty members (n=14) employ the most appropriate research method to address the problem they are investigating. F.M.15 states his view on method selection as follows: "*My method is decided by my problem. I choose the strategy that presents my research problem most effectively. That is, I do not build research based on the method; rather, I select the method based on the research.*" On the other hand, it may be understood from the interview responses of the faculty members that they can address the problem situation with a certain paradigm (n=8). F.M.18 reveals this by stating that "*I like more qualitative methods. Maybe I am leaning towards those problems.*" F.M.9, on the other hand, indicated that the nature of the problem was used as the basis for establishing a study method, but that he could also develop research based on the way he preferred: "*There are certain methods that I prefer. Regarding my branch, education, and field... I find qualitative research to be increasingly efficient. While choosing my method, I try to construct my research problem and process accordingly. Let me work qualitatively so I can consider how to qualitatively design this research.*"

The time that the research will take is one of the considerations faculty members make while deciding the research method (n=4). F.M.13 stated that he also considered the time factor in the method selection by stating that "*Naturally, we choose the most cost-effective and time-efficient strategies. These are also given in every research. For instance, while selecting a school, we select the closest schools that won't tire us out or distract us from our work.*"

When Table 3 is examined, it is seen that the faculty members (n=3) might consider the characteristics of the participant group while selecting research methods. F.M.7 explained that the research method was chosen

depending on the characteristics of the participant group and the nature of the research: *"If we are working with preschool children, not much quantitative data is collected from these students. Therefore, we develop a residual model using qualitative data collection techniques such as observation and interview. The answer relies entirely on the nature of the research question."*

Some faculty members (n=3) stated that, when selecting their own research method, they examine the methodologies of similar studies. F.M.6 explained that he benefited from similar studies while determining his research method as follows: *"After basically determining this strategy, I am searching for similar papers on research methods. Therefore, it might be compared to a feasibility study. Is this method appropriate for my research process and its outcome, as well as its confirmation? Well... I am reading similar studies."*

According to the faculty members (n=2), the available opportunities can also be used to determine the research method. This issue was addressed by F.M.18 as follows: *"...and other considerations when deciding the method... Who I will collaborate with, which data collecting tools are effective for resolving this issue, or what tools are available to me, the importance of my time, how much time I will spare, or what else can I say... Resources available to me, well...? There may be available funds."*

Some faculty members (n=2) have expressed a preference for research methods that are applicable to practice. In this regard, F.M.11 has stated that *"As I said, I prefer more experimental work. I dislike differentiating quantitative and qualitative research methods. My understanding of experimental is that it is experimental if we can perform an application and if do a different application to the group."*

Some of the interviewed faculty members choose to examine the sources related to research methods (n=2) and seek the expert opinion (n=2) to determine whether they are using the proper method for their research. F.M.5 noted that before deciding on the research method, he investigates related materials and solicited expert opinion by stating that *"When it comes to starting research, it goes without saying that I look at what has already been done. I will then examine the research design, qualitative, quantitative, and experimental resources. And, um, I absolutely have a few academician and Ph.D.-holding friends from whom I solicit comments. I am considering conducting such a study to determine if, methodologically, I can attain the desired outcomes. After obtaining these approvals, I start. I believe that everyone should do this, with the possible exception of veteran teachers."*

One of the faculty members stated that he may select the study method that he found most convenient. F.M.14 expressed his preference for quantitative research methods, which he claimed were simpler for him, as follows: *"I tend to avoid qualitative studies because, as a quantitative researcher, I believe they would be too challenging for me."*

Examining Preferences of Faculty Members Regarding Research Methods and the Motives behind These Preferences

Thirdly, it was investigated whether faculty members had a preferred research method and the reasons behind this preference. The analysis of the statements of the faculty members on this subject is presented in Table 4:

Table 4. Examination of whether Faculty Members Mainly Prefer to Use any Research Method and the Reasons behind These Preferences (N=19)

	(n)
Quantitative Research	6
Identified deficiencies/issues are generally suitable for quantitative method	2
More valid and reliable	2
Being generalizable	1
Taking less time	1

Less data loss	1
Easier to collect data	1
Becoming more proficient in the method	1
Mixed Method	5
Methods supporting each other	5
Reliable and generalizable data	1
Qualitative Research	4
In-depth examination of the problem	3
Eligibility for educational research	2
Criticism of quantitative methods	2
Taking individual differences into account	1
Predominantly not choosing a method	4
Suitability to the research problem	3
Methods are not considered superior to each other	1

Table 4 shows that the faculty members utilize quantitative (n=6), mixed (n=5), and qualitative (n=4) research methods, respectively. However, there are also faculty members (n=4) who report that they do not prefer one study approach over another.

The quantitative research method is the most commonly used (n=6) by the faculty members interviewed. Some faculty members (n=2) reported that they use quantitative methods more often because the inadequacies they noticed in the field and the research questions they were curious about could be addressed with quantitative methods. Some faculty members primarily employ quantitative research methods because quantitative research methods give more valid and reliable results (n=2) and the results are generalizable (n=1). F.M.8 stated that he finds quantitative research methods more valid and reliable, and therefore he mainly uses quantitative methods as follows: *“More validity and reliability. Now that we utilize proven measurement tools, we are more hesitant, i.e., this is no longer our responsibility, since we are measuring the impact of the measurement tools. You are responsible for determining the theme in qualitative studies... It is your sole responsibility... I suppose there is a little bit, because I believe that quantitative research produces more accurate results, and thus I rely on them.”* F.M.15 argued that only quantitative research methods make it possible to generalize scientific knowledge: *“Because I believe scientific knowledge should be generalizable. To be generalizable, it is important to reach large samples. Similarly, these can only be interpreted through statistical science.”*

Faculty members choose quantitative research methods for a variety of different reasons, including the belief that research with this method requires less time (n=1), data loss is less (n=1), and data collection is easier (n=1). F.M.14 explained his opinions in this direction with these words: *“It is possible to collect data from 100 people in a day, but also it is possible to collect data from only 3 people in a day. Sometimes you can't collect from those 3 people either. In other words, it may not be an issue if you collect data individually, like you did when you came to see me, but... We have always worked with groups in our past research, and we have always worked with groups, so you are going to make a focus group... People are having a lot of trouble getting together. Well, it's hard, it's so hard to manage, it's so hard to manage groups, it's so easy to overlook. You need an assistant with you. You have difficulty managing groups by yourself. While dealing with the group, you may overlook certain aspects. For instance, we film this, and now you film it there and in group interviews, but the man's facial expressions and other such details are missed. Sometimes you wonder whether the participant is kidding or telling the truth, but you can't be sure because you can't remember. You cannot write immediately; he waits sometimes 1 month-2 months. Even if everything is in order, data loss is inescapable. It is also tiresome. It is difficult to transcribe, print, extract themes, etc., and the process takes a long time. There are both classes and other time-consuming tasks, such as preparing for associate professorship that must be completed. I could not become an associate professor, I have to publish, there is pressure. There are additional responsibilities you have with your children... You are leaving the house, the child is ill, and you have a plan in mind. You must abandon all of your plans. You have to spend the whole day with your child and wait a week to realize your plans. You may not be*

available sometimes. However, you can use ready-made data obtained from PISA, TIMSS, the Student Selection and Placement Center, or the Ministry of National Education. Oh, you're saying that I couldn't do this during the day, I'll sit and do something until the morning. For example, you can make time somehow..."

Another faculty member interviewed attributed his preference for quantitative research methods to the fact that he saw himself as more competent in this field. The following are F.M.17's statements on the subject: *"Why is it quantitative? In other words, it may also be a result of my education. I received additional training in this area, specifically quantitative research methods. It might be around ten. Perhaps because I perceive myself to be more dominant."*

Five of the interviewed faculty members stated that they primarily use the mixed research method. The main reason for this is the faculty members' (n=5) belief that quantitative and qualitative research methods complement one another. F.M.6 said that qualitative and quantitative methods will support each other by stating that *"The Social Sciences deal with humans, and so many variables can be relative. Therefore, for me, acting with a single quantitative or qualitative metric is equivalent to seeing only half of the picture."* F.M.4 also expressed the importance of the quantitative and qualitative data supporting each other in the mixed method: *"I believe mixed researched method should be used because quantitative and qualitative data complement one another. We cannot interpret the process based on numbers alone and conclude that it did not occur. In addition, it is crucial for inferences to understand why individuals undergo this process and what kind of ideas they hold. Or it becomes extremely significant for other research."* F.M.13 also thinks similarly since he states that *"I use mixed research method because I think both are very valuable. Both quantitative and qualitative data are required. I compare it to the human body. I believe that if the quantitative represents the physical existence of the body, the qualitative represents its soul."*

One of the faculty members who stated that he preferred to conduct research using mixed method believes that this approach can produce more reliable and generalizable findings. F.M.6 expressed his viewpoint in the following way: *"So, the more a method can combine diverse patterns, the more things will happen... It is possible to obtain more generalizable and reliable results."*

Four of the interviewed faculty members stated that they primarily employ the qualitative research method. Some of these faculty members stated that they believed the qualitative research method allowed for an in-depth examination of the problem (n=3) and that it was more appropriate for research in the field of education (n=2). F.M.2 stated that qualitative research allows for an in-depth examination of the problem as follows: *"...I think we can obtain a lot more data in the form of both descriptive and content analysis with in-depth perspectives on the job in qualitative terms; I think we can see details that we do not encounter frequently in quantitative terms."*

Some faculty members (n=2), who stated that they primarily employed the qualitative research method, criticized the quantitative method from multiple perspectives. F.M.18 comments on the quantitative method as follows: *"Even though statistically only the data collected through the questionnaire is viewed more objectively, I do not feel very comfortable with it in terms of evaluation; I cannot place a great deal of faith in it. Because I think it is essential to engage the individual and examine his feelings, perceptions, and values in depth."* F.M.9 also expressed his criticisms about the quantitative method as follows: *"...I don't simply distribute a questionnaire, wait for the responses, and then draw a conclusion. I have a lot of trouble filling out the questionnaire on my own, so I do not find it to be appropriate. Because I believe that the process in studies such as the effect of something on something else is not natural... This is how I feel about it."*

Due to the fact that qualitative research methods can highlight individual differences, one of the faculty members uses this method predominately. F.M.12 explained this perspective as follows: *"As educators, we take individual differences into account and emphasize individuality. You do not generalize; rather, you value the individual because he is unique, you examine him closely, and you get familiar with him. I like that part of the quality..."*

On the other hand, some faculty members (n=4) stated that they did not have a preferred research method when conducting their research. These faculty members stated that they determined their research methods based on the research problem (n=3) and that they did not consider any method to be superior (n=1). F.M.1 expressed his thoughts on the matter as follows: *"I cannot say that I use this method specifically... It is directly relevant to the problem situation I'm addressing and the research question. I use whichever method is most appropriate for the study... The method should not be considered a goal; the objective is to identify the problem and find a solution."* F.M.19, on the other hand, stated that the research problem is the primary factor in determining the research method, but explained that multiple possibilities can sometimes be decisive in determining the method: *"I don't have a preferred method... If there is a time constraint or if there are problems with a study or the data collection process, qualitative research methods can sometimes be used. Because the objective of qualitative research methods is not generalization. Therefore, these studies can be conducted with smaller study groups. Sometimes, you know, time constraints, difficulties in the data collection process, or factors such as cost can lead you to qualitative research, but for me, the main problem is the situation."*

Examining the statements of faculty members about the challenging aspects of their research

The fourth issue examined in this study is the research difficulties encountered by faculty members. The analysis of the faculty members' opinions on the subject is presented in Table 5:

Table 5. Statements of Faculty Members about the Parts They Had Difficulty in Their Research (N=19)

	(n)
Introduction	
Writing the introduction	6
Method	
Data collecting	13
Ensuring validity/reliability	8
Data analysis	2
Data input	2
Naming the method	1
Discussion	
Making the discussion	4
Other Difficulties	
Literature review	4
Reporting the study	4
The scarcity of literature on the subject	3
When similar topics are studied, the papers are similar to each other	1

When Table 5 is examined, it is understood that the parts that faculty members have the most difficulty with when conducting research are method, introduction and discussion, respectively. However, faculty members also reported additional difficulties during the research process. These findings are explained in detail below in the form of introduction, method, discussion and other difficulties, taking into account the presentation integrity of a research.

Faculty members stated that they are having difficulty in writing the introduction part of a research they conducted (n=6). According to some faculty members, this problem stems from a lack of written expression skills. F.M.3 stated that writing the introduction is also a literary skill and that it is difficult to write this section with the following words: *"In my works, the findings, interpretation, and methodology sections are very simple to write. I make them exceptionally well. In addition to the discussion's success, I review the relevant literature. But in the introduction, these links irritate me greatly because it is crucial to compile the literature rather than simply scan it. We reach a lot of studies in the literature, but the ability to combine them is also a literary quality. I may have some difficulty with that. Making those connections in the introduction section and being able to combine these*

ideas causes me some difficulty.” F.M.1 also stated that writing the introduction to a research paper can be difficult for him, and he explained that this may be because he has not sufficiently developed his written expression skills: *“I have a little trouble writing the introduction. In other words, the method section, the analysis section, the findings, the discussion, the conclusion, the suggestions, and the definition of the problem situation are all present; however, I have some trouble presenting the problem situation itself. In other words, the problem, the research problem, and the subproblems are all distinct. This may be due to the fact that I come from a numerical background and the past... Perhaps because we always work with numbers... In terms of articulating the problem situation, verbal expression skills may be somewhat lacking. While discussing a finding, we can argue or express the result of the research very easily, as it is a concrete result for us; however, the written expression may be a bit challenging, such as “I’m not sure, but...”* F.M.1 also states that he thinks believes his written expression skill has enhanced over time: *“...in fact, I look at the introductions to the articles I wrote in previous years, during my doctoral studies, and now I look at the introductions I wrote, so I can confidently say that I have vastly improved. I have improved my written expression skills... In fact, the problem situation I present is always similar. When I reflect on the past, however, I would organize this problem situation and this introduction differently. I would make an introduction by relating it to this topic, and I would say that I would reach this point. This is likely related to experience, and I believe it improves the writing ability of humans.”* While composing the introduction to the study, F.M.5 experienced a blockage for which he did not know the cause. According to him, this situation stems from his fear of not being able to present the introduction section effectively, or possibly because he finds this section less engaging than the findings. This situation finds a response in the discourses of F.M.5 as follows: *“...it may be necessary to explain the problem thoroughly. When the most beautiful and valuable information or object is presented poorly, it may not receive the value it deserves. If we all serve the best food on rusty plates, perhaps no one will eat it. Perhaps it’s his concern, or perhaps the findings are simply more compelling...”*

The faculty members stated that they had difficulty in the method part of their researches and stated that they had difficulties in data collection (n=13), ensuring validity and reliability (n=8), data analysis (n=2), data entry (n=2) and naming the method (n=1), respectively.

The majority of faculty members who stated that they had difficulties in data collection attributed these difficulties to the target participants of the research. The unwillingness of the target participants to participate in the study is one of the main difficulties. According to the faculty members, among the target participants, the teachers are the most reluctant to participate in the research. According to faculty members, some teachers are hesitant to participate in scientific research because they believe they are being evaluated and that the research they will conduct will be ineffective. The fact that teachers feel under evaluation in scientific research is reflected in F.M.7’s statements as follows: *“...when you ask to meet with him, he feels as if he is being evaluated. Even when I go to a district that does not have a university, he treats me like I am an inspector. He gets worried, asks questions like where did you come from, who are you? I’ve had that too.”* The following statements from F.M.7 indicate that teachers do not believe their participation in scientific research will be beneficial: *“They are not very cooperative. They think their work is useless. When grading on a scale, for instance, I’ve encountered teachers who mark them all the same. My instructor asks, “What is the point of doing these?”* F.M.18 stated that the research conducted were not taken into account by the authorities. According to him, this is one of the reasons why teachers consider research to be useless. F.M.18 stated that *“Because teachers do not believe the research, we conduct is significant and will solve problems. They simply believe that we perform these actions procedurally in order to advance our career. However, we do use these studies to be promoted, but our ultimate goal is to solve a problem in that field. One of the reasons for this is that the relevant authorities do not take our proposed solutions to these issues seriously. Therefore, the difficulties encountered when working with teachers are greater.”* In addition, F.M.18 stated that teacher candidates may not always want to participate in research, but it is easier to convince them than it is to convince teachers: *“It is easier to convince students, perhaps middle school students. Working with teacher candidates can be challenging at times due to the amount of homework and the Public Personnel Selection Examination. You know, KPSS is a serious obstacle for teacher candidates. I believe I can persuade them to participate more easily than their teachers.”*

In addition, according to faculty members, research findings demonstrates that some teachers do not want to participate in scientific studies out of fear that they will not adapt to innovative practices. F.M.11 explained that, in his opinion, one of the factors preventing teachers from participating in scientific research is that they are not very receptive to technological innovations and advancements: *"Our teachers are terrified of technology. The majority of teachers do not wish to introduce anything novel into their classrooms."* F.M.11 also stated that authorities may perceive the possibility of teachers failing to adapt to innovations as a threat: *"They don't believe they can do it... Our teachers do not wish to alter the educational approach they are accustomed to... It is difficult to find self-confident people when it comes to technology because they lack confidence in themselves. What do they believe now, do they believe their authority will be challenged if they are unable to do it?"* Some faculty members think that teachers avoid scientific research because they are tired of filling out questionnaires and view it as a burden. In an interview with him, F.M.5 stated that *"Some teachers do not want to participate in scientific research because they already participate in too many scientific studies and believe that their contributions do not benefit them. The teachers are sent one-on-one forms, and it is their responsibility to fill out the scales. Teachers do not want to complete it because there is no added value for them in doing so. Let's put it in quotation marks, "Honestly answering all survey questions or giving the same answer to all of them does not give a teacher a plus or a minus in any way.""* The findings of this study reveal the following additional difficulties encountered by faculty members during the data collection phase of a research project: Principals of schools do not support or want to participate in scientific research, it is difficult to collect data from preschool children, and it is difficult to collect data from the research subject in qualitative interviews. In longitudinal surveys, there are variances and retrieval challenges for the same participants.

The statements of faculty members (n=8) indicate that ensuring validity/reliability is one of the most challenging aspects of conducting research. Some faculty members stated that research participants did not answer the data collection tools with honesty and thoroughness. This situation is likely to have a negative impact on the validity and reliability of the research. F.M.6 expressed his concerns regarding this matter as follows: *"As I previously stated, the greatest challenge for me is our work with people, as we collect data from individuals. However, ensuring the reliability of this data is always my primary concern. In other words, when a survey or interview is conducted, does the respondent truly state what he thinks, or does he simply give an answer?"* In addition, some faculty members mentioned the difficulty of obtaining expert opinion during the analysis of data, particularly in qualitative research. This situation reduces the validity/reliability of the research. According to F.M.4 and F.M.2, in qualitative research, there is an excessive amount of data that must be submitted to expert opinion, which poses a problem for the researcher. The relevant views of F.M.4 are as follows: *"For example, when I need to categorize some data in qualitative research, a professor should provide my readings and these inferences to my friends who are more experienced, as well as an expert in the field. In other words, to determine if we can reach a consensus... Even after performing some checks, i.e., prior to sending or presenting a piece of work, I am required to show it to a subject matter expert. This is typical for qualitative research. Because multiple interpretations of the subject are possible. It is easier in statistical that is, in quantitative terms..."* F.M.2 also expressed his views as follows: *"We have difficulty finding support for expert opinions when we work qualitatively, that is, when we conduct in-depth analyses of the data we collect. Because it is not always possible to locate teachers in the field who are willing to administer such extensive readings, tests, and details. We are extremely grateful that teachers have jobs. I completely understand why they do not want to do it, but this is a challenge for me, the greatest challenge. One expert is not enough... this is the biggest problem."*

Some faculty members (n=2) reported having difficulties with data analysis. When examining the difficulties encountered by faculty members in the data analysis section, it is notable that the majority of these difficulties are associated with qualitative data analysis. F.M.12 explained the difficulty caused by the accumulation of an excessive amount of data to be analyzed in qualitative research as follows: *"The data analysis part becomes tedious. Since there are numerous documents, pages upon pages... I once had documents as big as a book. You read each page individually, analyze it, and extract the code and themes... It becomes an extremely tedious period."* Another difficulty that faculty members (n=2) stated in the method part of a research - in quantitative method research - is entering the data into analysis programs. Faculty members think that data entry is a tedious,

time-consuming task that lacks excitement. One of the faculty members interviewed stated that he had difficulty in naming the research method. F.M.19 described his hesitation in naming the qualitative research method he employed as follows: *"I see a split in the literature, whether our work is sometimes phenomenology or case study, in articles and publications. It's the same with the sources. Since the sources provide a theoretical rather than a concrete explanation of an article, each author interprets it differently. Now, whenever you see them in this state, you are always suspicious. Yes, he is correct in his own way, and this is correct as well. Some referred to it as phenomenology, while others referred to it as a case study. Occasionally, such occurrences are tiring... When you ask your friends what path you took this time and what you think, you discover that your friends and experts fall into two distinct categories. For instance, this is one of the things that wears me out the most... I see that there is a difficulty in naming the method qualitatively."*

Some of the interviewed faculty members (n=4) have difficulty writing the discussion sections of their research. According to them, this section necessitates knowledge of the literature and interpretation of the results, as well as greater concentration. F.M.12 explains how he is having difficulties in composing the discussion section as follows: *"During the writing phase, such as when composing the discussion, I face the greatest difficulty. For example, I find it easier to write the other sections, but when it comes to the discussion, I must take everything into account. All the literature that has been produced must be visualized in your mind. You must critique it by contrasting it with them... This section appears to require considerable attention."*

Faculty members stated that, in addition to the aforementioned difficulties, they encountered additional difficulties during their research. One of these difficulties (n = 4) is the difficulty encountered when scanning the literature. F.M.2 described the difficulties he encountered while reviewing the literature as follows: *"Something is missing, for instance, and I regret seeing it later. Which we do not meet. After the study is published, I realize this is the case... You know, the literature analysis and compilation are very solid, without haste, so as not to miss them... Perhaps that is what should take the most time..."* One of the problems F.M.12 experiences within the scope of literature research is that not every article is open to access: *"For example, I am unable to access certain articles in determining that literature, which is a problem... It is not open to the public, and articles like this occasionally appear. You cannot reach it, but if you could, the information it contains might lead me in a different direction."* Some faculty members (n=4) have difficulties with the reporting of the study. F.M.19 expressed his views on reporting his research as follows: *"But I get angry during the reporting process. For instance, I am currently working on a project. So, the reporting process is a bit of a chore, a drudgery, if I'm being honest."* The lack of knowledge of the literature on some of the subjects studied can also pose a problem for faculty members (n=3). When a faculty member studies similar topics with a shared body of literature, he finds it unsettling that his articles begin to resemble each other. F.M.11 expressed his thoughts on this matter as follows: *"...and people get on repetitions. When I study similar topics, everything I write starts to be the same after a while. It is necessary to find new resources."*

Examining the statements of faculty members about their feelings about research during the research process

The fifth issue in this study is how the faculty members feel about the research during the research process. The relevant opinions of the faculty members were analyzed and shown in Table 6:

Table 6. Statements of Faculty Members about Their Feelings about Research during the Research Process (N=19)

	(n)
Excitement	
In Data analysis/Learning the result section	5
Excited to start	4
The excitement of the process	3
Being excited except for reporting	3
Pleasure/Enjoyment	

Enjoyment of the process	3
Data collection is enjoyable	2
Enjoyment of the discussion	2
Having fun/enjoyment of data analysis	1
Boring	
Reporting	3
Composing the introduction/Literature	2
Data analysis	1
Happiness	
Being happy in the process	4
At the end of the process	2
Curiosity	6
Energetic	2
Cooling down	2
Tiredness	2
Anxiety	2
Stress	1
Having a mood that does not change much	1

When Table 6 is examined, it is seen that the faculty members interviewed during the research process felt primarily excitement, pleasure/enjoyment, boredom, happiness, and curiosity towards the research. This is then followed by sensations of being energized, cold, exhausted, anxious and stressed. A member of the faculty members stated that he did not experience any emotional changes during the research process.

Some faculty members (n=5) who reported being excited about the research during the research process stated that data analysis/learning the results was exciting, while others (n=4) reported experiencing intense excitement when the research was started. Some faculty members (n=3) found the entire research process to be exciting, while others (n=3) reported losing their initial enthusiasm during the reporting phase. F.M.3 described his enthusiasm for data analysis and learning the result as follows: *"I actually tell everyone about the outcome. Aaa, it worked! I'll spread the news around to see if it's connected to anything else. And I find this work stimulating. Why am I embarking on a project that will excite me? F.M.5 reveals his excitement in the data analysis/result learning process with these words: "For example, my findings are sometimes so incredibly valuable that I can't write the introduction because of excitement."* Some faculty members (n=4) expressed excitement about starting a research paper. According to some faculty members (n=3), the research process as a whole is exciting. Some faculty members (n=3) think that the research process is generally exciting, with the exception of the task of reporting their own research. F.M.6 reveals that he lost his excitement while reporting his research with the following words: *"At first, I am very excited. Until I collect and analyze the data and observe the outcome, my motivation is high. Then the task of putting it into work, the writing phase of the paper, greatly decreases my motivation."* This is because F.M.6 does not feel free when reporting the research: *"...you must fit it into specific patterns. You must adhere to certain criteria. Ultimately, you want it to be published or accepted somewhere, with referee approval. You want to protect its originality and adhere to the criteria that will be accepted. It's like squeezing into something... I don't like the reporting phase. Although I can say most of what I want to say, it is necessary to base it on certain references. There is no research on this topic, so it is necessary to find it. Come on, there is no study on this subject, it is necessary to find it. It bores me, it lowers my motivation."* F.M.10, on the other hand, described his lack of interest in the reporting phase of his research as follows: *"For example, I begin the research very quickly, I do something, I complete the research, but now I'm seeing the results in the reporting phase. For example, I am slow to convert it into an article... In other words, I'm content with myself and in a state of being okay, even if others are unaware. The problem is that it does not work. Something that is not disclosed or published... Actually, it is there at that point; however, I may be a bit tardy in reporting and sharing it with the literature after I complete the research. For example, one of my greatest errors is my own. Currently, I have a lot of incomplete research papers. Therefore, they are all waiting. My favorite part is collecting the data and completing the work, but I am slow at publishing."*

Some of the faculty members who stated that the research process was enjoyable, enjoyed the whole process (n=3), some (n=2) enjoyed collecting data, some (n=2) enjoyed writing the discussion part, and some (n=1) enjoyed analyzing the data. The following statements of F.M.12 can be interpreted as that he found the data collection part enjoyable/pleasant: *"I enjoy the data collection phase or the phase in which I will collect research data."* F.M.18's statements show that he enjoyed writing the discussion section: *"I enjoy putting all my findings in front of me, discussing them with the literature, and revealing something new."*

There are certain research-related tasks that faculty members find boring. According to Table 6, these tasks are reporting (n=3), writing the introduction/literature review (n=2), and data analysis (n=1). F.M.15 explained that he found the writing part of the field literature boring as follows: *"The method is a technical part. The process of revealing the findings is the part that satisfies your curiosity. The part about what the results will be is exciting. The part where you interpret it is when you add something of yourself; this is where you may show your creativity more. Writing for the literature is a little boring compared to these parts."* F.M.12, on the other hand, noted that data analysis is a boring process: *"The data analysis part is a bit too much, it gets boring. Because you have many documents, page after page. I previously had a document of book size. It is a difficult process to read the pages one by one, analyze them, and come up with code themes."*

One of the emotions experienced by faculty members during the research process is happiness. Some faculty members (n=4) stated that they were happy throughout the research process, while others (n=2) stated that they were happy at the end of the process. F.M.13 reported that he enjoyed the entire research process. However, based on F.M.13's words, it can be concluded that this happiness was more intense when he completed the paper: *"It is a curious thing. A study piece is like having such a child, educating him, nurturing him, and accepting responsibility for him. Short-term, wonderful happiness... when it's finished, you feel as though you're holding a small child. Because every work is like your child, each... Because of your diligence. The data collection process, the research process, the process of determining the research problem, the application process, then the post-tests collection process if you are doing it experimentally, especially the post-tests collection process, writing it down, the statistics, and here is the data entry, particularly if the study is qualitative or something. Thus, a year is the average amount of time required to conduct research adequately. In a year, it becomes like your child."*

Curiosity is another emotion faculty members experience during the research process (n=6). Faculty members stated that they were mainly curious about the results of the research. F.M.3 reveals his curiosity in the research process as follows: *"I'm always looking at the target, wondering what will come out, what will occur, etc... This is how I conduct a study; I don't know whether it will be completed or not, but I'm intrigued about the results... I normally begin my study with the method section. I see the results first, sate my curiosity, and then write the introduction and the discussion parts."*

Two faculty members reported feeling energetic during the research process. While F.M.2 felt energized towards the conclusion of the study, F.M. 15 reported feeling energetic throughout the entire research process. The form contains F.M.2's views on the subject: *"Emotions are much more pleasant and energizing close to the end."* F.M.15 described this situation as follows: *"Researching gets me really energized. I feel incredibly energetic."*

Table 6 shows that faculty members (n=2) may experience a feeling of alienation towards their research during the research process. Although F.M.19 indicated that he was able to overcome this, he stated that he was occasionally able to deviate from the research he carried out for various reasons: *"There are moments when we become trapped when working. In other words, there is a point where advancement ceases, and a question mark appears regardless. You remark, "Let's wait a while to solve this question mark," such as obtaining an expert's opinion or obtaining support and reinforcement from other sources... When you consider the course load at that moment, there is a pause. Stopping allows you to calm down without exertion. Since you have a strong knowledge of the work, it's not too much of a bother..."* F.M.10, on the other hand, states that he is slow to turn the research process into an article due to his perfectionist attitude, and that this situation alienates him from work: *"I can say a little complacency in order to do it this way; I'm taking my time. After that, I take a break from work."*

During the research process, faculty members may feel tired (n=2), anxious (n=2), and stressed (n=1). F.M.11 described his tiredness and anxiety during the research procedure as follows: *"I'm a little fast-paced. This is why I'm anxious. When I begin a work, I want it to proceed smoothly and conclude quickly, but when this is not the case, I am frequently anxious. Also, since we work practically, locate a practicing school and complete the application; I prefer to work in National Education rather than universities. These procedures are extremely tiring. It's also worrisome, of course, because the situation is unstable."* F.M.9, on the other hand, said that he was concerned about repeating a study in the literature without being aware of it: *"I am always anxious. Sometimes I look at it or abandon it halfway through because the study or whatever is not worthwhile. I don't know, then I find that the same thing has been done, so I continue my literature search to determine how to differentiate it. Of course, we conduct a literature search first, but I am depressed whenever I stumble into it by accident. In other words, I am always anxious till I complete the research. I'm happy after it's over... As I said, it can come to naught at any moment... This is always my fear. I mean, if it's finished, even if we've conducted extensive research... It has happened to me."*

One of the faculty members stated that his mood does not alter significantly during the research process. This faculty member (F.M.1) stated that although he was curious during the research process, his mood did not change significantly, and because he chose research as a career, the research process appeared normal to him: *"...I look at it like this, this is my job. Everyone must work to make a living; this is my occupation. I discard it because, when establishing a study process, I get as excited as a butcher when shearing a sheep. So, this is a normal occurrence that I must perform. Obviously, this occurs, but when you're working on a new topic, what is the result of that topic? So, what kind of result will you achieve, what kind of conclusion will you reach, will the data you collect lead you to the intended or predicted result, and if not, what will you associate it with? Because we may not always reach the planned results... I start every work with curiosity, but I cannot say that I am overly excited."*

Examining the statements of faculty members about the difficulties they encountered while conducting their research

Lastly, in this study, the difficulties faced by faculty members while conducting their research were examined. The related answers of the faculty members were analyzed and shown in Table 7:

Table 7. Statements of Faculty Members Regarding the Difficulties They Encounter while Conducting a Research Paper (N=19)

	(n)
Technological and economic	
Failure to find financial support for studies	6
Unable to access some devices/materials	4
Not getting the required software/program	2
Insufficient laboratories	1
Bureaucracy	
Authorized institution permits (National Education Directorates, Student Selection and Placement Center etc.)	6
Ethics committee approval	1
Get parental permission	1
Obtaining permission from faculty members	1
Publication process	
Attitudes of journals/publishers to studies with no significant difference	2
Journals' high publishing fee demands	1
Prolongation of the publication process	1
Finding the appropriate journal	1
Rejection of articles	1
Time	5

Motivation	3
Inability to establish the desired research team/inability of researchers to come together	3

Table 7 reveals that technological and economic inadequacies, bureaucracy, the publication process, and lack of time account for the majority of difficulties faculty members face when conducting research. Faculty members may also encounter difficulties with motivation and research team. Faculty members indicated that technological and economic inadequacies presented the greatest challenges in the research process. The lack of financial support for the studies is one of these difficulties (n=6). F.M.7 stated that social science research is not as important as health and engineering research and therefore cannot receive adequate funding. Relevant statements from F.M.7 include: "...we want support, for instance universities have BAP units for scientific research. However, these cost-cutting measures, etc. in the previous period were unsuccessful. In this context, the work of social scientists like us is seen as a little less valuable. Here are engineers, medicine etc. While the work of health scientists is regarded as valuable, studies in the social sciences are regarded as less so. We do not receive assistance. If we can finance a portion of our expenses through projects and receive larger budgets, I believe we can do better. Perhaps we can even produce products." Not having access to certain devices/materials required to conduct the planned research (n=4) is also one of the challenges faculty members face while conducting their research. F.M.11 stated that he could not reach the necessary devices for his studies and that if this situation persisted, he would have to change his field of study: "After enrolling at X University, I was unable to complete any work. Because I am currently without technical equipment. It was at Y University, I left them all there... So, I can't work in the field I want right now. It is the most difficult challenge I've ever faced. If we get it done, I'll start working again... If I cannot, I will change my field. I will start working on other subjects." Some faculty members (n=2) stated that they were unable to conduct every study they wanted because they could not afford the necessary software/programs. F.M.5 described the difficulty he encountered because he was unable to access the necessary analysis program for his research as follows: "For example, I want to conduct a meta-analysis. However, there is a well-known program called x. The annual usage fee was approximately 4000 Turkish Lira, the USD wasn't this high... In other words, it was paid, you may use it for one year, and then the license is revoked... And now neither our university nor any other university has such a thing. They don't pay it back if I purchase it by myself." A faculty member said that laboratories were inadequate for his research. The following statements of F.M.12 provide a summary of the technological and economic difficulties faced by faculty members conducting research: "For example, I'd like to create a more extensive and unique application in the laboratory, but the laboratory here is not very suitable. I wish to purchase software, for instance, but because it is prohibitively expensive and not available at my university, I cannot implement it. For instance, I enjoy the most recent studies very much. I need a tool. I have no equipment at the university. For instance, I will contact a professor from a different university; however, there is a problem with his acceptance, which can be an obstacle. I am enrolled in a course on special teaching methods. We need sets, we need materials, I want students to practice with these materials, and I want to oversee their studies, but there are no materials. These situations are problematic."

Faculty members stated that they are having problems arising from bureaucracy while conducting their research, and all of them are related to permissions. Faculty members have difficulty in obtaining permission from authorized institutions such as the National Education Directorates, the Student Selection and Placement Center (n=6), ethics committees (n=1), parents (n=1) and faculty members (n=1) teaching the course, and that these permissions prolong the research processes. F.M.19 expressed the difficulties he experienced while obtaining permission from the authorized institution and ethics committee as follows: "The biggest problems are bureaucratic problems. The permission process is unfortunately difficult. Currently, I have three studies in our university's ethics committee that have been waiting for months. Now you will conclude the permissions procedure so that you can move on to the data collection phase. In addition, we must obtain permission from the National Education Directorates in order to work in schools. These authorizations are all bureaucratic processes that require time and correspondence. It is a waste of my time and energy to engage in such activities. However, if I had spent my time and energy on the actual work, it would have been considerably more productive." According to F.M.4., the instructor of a course that is applied/desired to be applied in interdisciplinary studies can avoid granting the required permissions and sharing the data. Regarding this issue, F.M.4 states that "If something is

interdisciplinary, it is difficult to observe or collaborate with other faculty members from that field. I feel compelled to do so. This position restricts me to my own field. In other words, for my students to participate in interdisciplinary activities, those faculty members must also be willing to participate. Not everyone has that appearance. If I'm an engineer like you in a language study and they do not wish to share data with you, you can observe my students. Or they are unwilling to share their notes with you, making it difficult to form another study group. Because of this, I find it difficult to conduct research, as a result of which we focus on a single research area for the majority of the time, and I have personally experienced this as a researcher last year. So, I think it is challenging."

When Table 7 is examined, it becomes apparent that faculty members may encounter some difficulties when publishing their research. Two faculty members stated that journals and publishers had a negative attitude toward studies that did not demonstrate a statistically significant difference. The following opinions expressed by F.M.11 on this subject are noteworthy: *"For example, I conduct and application. As previously stated, I believe it will have an impact on self-efficacy. It does not have much of an effect on me. As stated, I attempt to collect both quantitative and qualitative data, so I discard quantitative data on occasion. This is due to F.M.11's reluctance to reveal a result that contradicts the literature, as well as the belief that journal referees will not accept meaningless research results: "Sometimes, individuals are reluctant to act contrary to the literature... There is a perception, however, that our general objective is to find a meaningful and positive difference. Thankfully, the referees who handle articles in Türkiye don't do much, as far as I can tell. I sent a few of these articles, but I didn't notice any significant differences, so they told me to do it again and returned the papers. That's why I usually extract that data and turn the article into a qualitative one."* F.M.14, who viewed the same situation as a problem in his early academic years, no longer views it as a problem and relates the following anecdote: *"For example, when I was writing my thesis, my results did not agree with the literature; in fact, it was the opposite. At the time, I was terrified and depressed. Why is it this way, how can I explain it, etc... Therefore, here is what everyone says: Let's achieve a meaningful outcome, a meaningful outcome. I did not anticipate "meaningful results" in certain situations. Now that we have begun to cry with the consultant (laughter), you can remove the crying or something. No, I'm crying, so I ask my advisor, "What are we going to do? Why is it like this?" His response opened my eyes, and I became more at ease. He stated that everyone achieves their goals and happiness. However, when you find that you are not expecting... When you say that there is no meaningful difference, many new opportunities become available to you. Everyone says that there is, but you say that there is none. You are actually more, you are in a more interesting position, and you have reached a point where it will attract more attention; do you understand why it is this way? Why is it that when you help a little bit, when you give an idea or something, you then say, "I thought I couldn't find anything, but I actually discovered something very important?" Consider that you are now saying that something that has been accepted as true for a century is incorrect. First, you're afraid..."* One of the faculty members (F.M.18) mentioned that even some non-paid journals charge high fees as part of the economic difficulties he is facing: *"I don't mean paid journals, but some journals have fees and a serious review process for their proofreading article processes. The money paid to them... I mean, I think these are all in terms of financial problems."* On the other hand, a faculty member (F.M.8) discussed the difficulties he encountered in delaying the publication of his research, finding the appropriate journal for his research, and having his articles rejected. F.M.8's statements regarding the difficulty of finding the appropriate journal to publish his research and the possibility that his articles will be rejected are as follows: *"It is true, for instance, that after publishing an article or publication in a journal, finding the right journal is also a significant challenge. Because, for example, you believe the publication is a good fit for you, there may be rejections in this regard. Many journals can reject submissions. I believe this is the area in which I struggle the most. I am speaking for SSCI journals; of course, we do not experience this problem too much in TR index, Turkish national journals."*

Faculty members (n=5) reported that they lacked sufficient time to conduct research. According to them, this is due to the heavy course load and the time wasted by bureaucratic work (research permits).

Faculty members (n=3) reported experiencing motivational difficulties while conducting research. One of these difficulties is the loss of motivation brought on by the prolongation of the publication time of research. Another

difficulty in this regard is the belief that there is no motivating factor for faculty members to conduct research. The following are the opinions of F.M.7 regarding this issue: *"A little bit, I suppose, we need a little bit more time, you know, sitting down and working requires motivation and time. Oh, motivation may be even more effective if there is something to motivate me. I have no idea what it could be. I suppose it no longer encourages academic incentives or something... It's becoming normal because now maybe that too. It may be more inspiring when it is first introduced. When you give something of this nature, the quality typically declines. When we give points to congresses in incentives, we see that there have been five or six good congresses in the past, despite the fact that there are currently 150 congresses. Everybody holds conventions, etc. This sort of thing reduces the quality a bit. But I have no idea what to do."*

When the statements of the faculty members (n=3) are examined, it becomes apparent that the researchers are unable to form the research teams they want/are unable to come together. According to them, these problems are the inability to establish research teams with similar perspectives and interests, as well as the inability of researchers to come together due to time and geographical constraints. F.M.16 was unable to find a team and connect with other researchers on a common ground due to the following issues: *"...not being curious about the same subject, not feeling the same excitement... I mean, pretending is not for me... Why are we conducting research that has already been conducted? Let's conduct a study to fill the gap in the literature."* F.M.7 explained that time constraints and distances made it difficult to come together as follows: *"We need to work together, there must be good teams. I believe we need time to collaborate. I believe that the number of teaching staff in each department should be increased slightly. Therefore, we must be able to devote more time to study and research and less to classroom instruction. And when competent teams work together, they produce better results compared to individual efforts. We need to be able to build those teams. The people we can work with at other universities, these distances make it difficult. That too is a problem."*

Result and Discussion

In this study, which examined the research/publication processes of the faculty members of the faculty of education, it was first determined why the faculty members began conducting research. Yalçın and Altun Yalçın (2017) examined the situations faculty members encounter while conducting research and how these situations affect their research processes. In the study in which 34 academicians working at a university in Türkiye participated, the academicians were questioned about their motivations for conducting research. In Apaydın's (2016) study, which examined the perceptions of scientists toward scientific research, the participants were questioned about the objectives of scientific research. These two studies have some findings overlapping with this study. The majority of the faculty members of the faculty of education interviewed for this study stated that they conducted research to satisfy their curiosity. Participants in Apaydın's (2016) study stated that scientific research satisfies the curiosity of scientists. According to the findings of this study, a substantial proportion of education faculty members can initiate a research process with the goal of addressing a deficiency/problem in their field and filling the gap in the field. The research findings of Yalçın and Altun Yalçın (2017) indicate that some faculty members conduct research to find answers to problems. According to the findings of Apaydın (2016), one of the objectives of scientific research is to fill the gaps in the literature. Another overlapping finding of this research and the research of Yalçın and Altun Yalçın (2017) is that some faculty members conduct scientific research to contribute to the field/science.. The participants in Apaydın's (2016) study stated that scientists conduct scientific research to serve humanity, science, and technology. According to the research of Apaydın (2016) and Yalçın and Altun Yalçın (2017), scientists/faculty members conduct research in order to advance academically. In contrast, one of the faculty members participating in this study stated that conducting research is one of the responsibilities of an academician. In the studies of Apaydın (2016) and Yalçın and Altun Yalçın, findings supporting this research finding were reached. In this study, it was determined that a faculty member of the faculty of education could aim to test a literature knowledge that he doubted when starting a research paper. The participants of the study conducted by Apaydın (2016) agreed that the purpose of scientific research is to test hypotheses and theories. Research findings reveal that one of the faculty members wants to design scientific research that he can conduct within the scope of the courses he teaches and evaluate the scientific productivity

of these courses. In addition, the fact that the graduate students under this faculty member's supervision have diverse interests can inspire him to conduct research on those topics. In addition, according to Apaydın's (2016) study, scientists can conduct scientific research in order to improve themselves and because they find it enjoyable. Similarly, according to the study of Yalçın and Altun Yalçın (2017), faculty members can conduct scientific research for professional development, personal development, and personal fulfillment.

The second issue within the scope of the research is what faculty members consider when determining scientific research methods. A significant number of faculty members stated that they base their research on the method most appropriate for solving the research problem they are addressing. In addition, it is understood that some faculty members have a tendency to employ a particular paradigm when approaching the issue, conducting research, and selecting research methods. The findings indicate that the duration of the research, the characteristics of the research participants, the examination of similar studies, and the availability of opportunities may also affect the selection of research methods of some faculty members. In addition, two of the faculty members tend towards research methods that allow the application and evaluation of a different method, technique etc. Some faculty members consider resources on scientific research methods, expert opinions, and the research method that is easiest for them when determining their research methods.

The third question examined in the study is whether there is a predominant research method employed by faculty members, and if so, what this method is and why they prefer it. The faculty members whose opinions were consulted prefer quantitative (n=6), mixed (n=5), and qualitative (n=4) research methods, respectively. There is no research method used predominantly by some faculty members (n=4).

Two of the faculty members mostly use the quantitative methods as they are suitable for researching the deficiencies/issues they are curious about in the field. Some faculty members who employ the quantitative research method believe that the results obtained using this method are more valid and reliable. According to some faculty members, quantitative research takes less time, and data loss is less in quantitative research, and it is easier for some to collect data. One of the faculty members also uses this method in his research because he feels more competent in quantitative research methods.

Faculty members who stated that they predominantly use mixed research methods in their research prefer this approach because they can benefit from the opportunities of quantitative and qualitative research methods together. In addition, one of these faculty members thinks that mixed research methods produce more reliable and generalizable results.

Some faculty members who stated that they mainly use the qualitative research method in their research explained that this method allows them to examine the problem situation they are addressing in great detail. Two faculty members think that the qualitative research method is appropriate for the nature of educational research, which encourages them to employ this method. One of the faculty members criticizes the use of the quantitative method in educational research on the grounds that this method does not allow for a multi-dimensional examination of the feelings and thoughts of the individual. Another faculty member thinks that quantitative research methods in education are not natural. In addition, one of the faculty members mainly preferred the qualitative research method because it is easier to account for individual differences when using this method.

The nature of the problem situation they face determines the research method preferences of a subset of faculty members who stated that they do not primarily use any research method. However, one of the faculty members believes that there are no superior research methods and, as a result, does not use any method predominantly.

In this study, fourthly, it was investigated what are the parts that the faculty members have difficulty in their research. The results indicate that some faculty members have difficulties in the introduction, others with the method, and others with the discussion sections. In addition, some faculty members have difficulties in literature review and some in reporting the study. Some faculty members encounter difficulties due to the scarcity of literature on the subject they deal with. According to another faculty

member, when similar topics are studied, the content of his papers is similar, and he views this as a problem.

Some faculty members have difficulty writing their research's introduction. According to some faculty members who reported having difficulty with this section, this difficulty is the result of inadequate written expression skills. While writing this section, one of the faculty members had difficulty compiling the information obtained from the literature and making connections between the information. In their studies examining the factors that prevent academics from producing, Boice and Jones (1984) also mentioned that the act of writing is difficult. Therefore, the act of writing is based on clarifying and exploring the relationships between ideas, as opposed to being a mechanical task in which something is copied exactly as it is (Nodine 1982 as cited in Boice and Jones, 1984). In their studies, researchers have also addressed how to improve writing skills.

The difficulties experienced by the faculty members in the method section are mainly in data collection, ensuring the validity and reliability of the research, data analysis, and data entry. Naming the method is also among the difficulties faced by the faculty members in this section.

According to this study, the main problem experienced by the faculty members in the method section is data collection. The main issue identified by faculty members during data collection is that the target participants do not wish to participate. In the study conducted by Yalçın and Altun Yalçın (2017), it was determined that faculty members encountered some challenges during the data collection procedure. According to Yalçın and Altun Yalçın (2017), faculty members have difficulty reaching diverse sample groups, and target participants are hesitant to participate in surveys/interviews. In the study conducted by Korkmaz, Şahin, and Yeşil (2011), which examined the perspectives of teachers on scientific research and researchers, a significant portion of the teachers interviewed stated that the researchers encountered difficulties in the data collection process, such as the difficulties of the participants and the inability to reach the target audience. The faculty members of faculty of education participating in this study think that teachers are the most reluctant group to participate in the research among the target participants. According to some faculty members, teachers are hesitant to participate in research because they believe they are being evaluated, they do not believe scientific research will be beneficial, they are tired of participating in too much research, and they view it as a chore. In the study of Babayiğit and Başaran (2017), in which faculty members of education faculties examine the problems they encounter while conducting scientific research and offer solutions to these problems, it has been revealed that teachers may have negative/irrelevant attitudes toward scientific research. One of the issues that Korkmaz, Şahin, and Yeşil (2011) addressed in their studies is how teachers approach assisting researchers who reach them to collect data. The researchers concluded that a significant portion of the teachers supported scientific research, but that approximately one-third of them did not volunteer to participate in the data collection process. A significant proportion of teachers who are unwilling to participate in researches state the following reasons for their reluctance; they find the attitudes towards them to be negative in general, they do not find the method used to collect data to be appropriate, they are not treated kindly, they are subjected to excessive demands, they believe that the research will not achieve its goal and is unnecessary, and they believe that these demands are excessive. On the other hand, this research and the study by Babayiğit and Başaran (2017) indicate that the negative attitudes of some school administrators toward scientific research also pose a problem for the scientific research processes of faculty members.

Validity/reliability assurance was stated as one of the main difficulties by faculty members in the method section. According to faculty members, the fact that some research participants do not answer the data collection tools truthfully and completely has a negative impact on the validity and reliability of the studies. In the study of Babayiğit and Başaran (2017), some faculty members stated that the lack of seriousness of research participants is problematic. According to a significant portion of the teachers who participated in the research conducted by Korkmaz, Şahin, and Yeşil (2011), the fact that the participants gave subjective, insincere, and informal responses during the data collection process prevents the researchers from collecting sufficient healthy data. Two faculty members from the faculty of education who participated in this study stated that data analysis was difficult for them. One of these faculty members reported having difficulty with statistical data analysis for quantitative data analysis,

while the other reported having difficulty with qualitative data analysis. In the study of Yalçın and Altun Yalçın (2017), it was determined that faculty members had some difficulties with quantitative and qualitative analysis. Some of the faculty members of the faculty of education may have difficulties in composing the discussion section. The study of Yalçın and Altun Yalçın (2017), on the other hand, demonstrates that faculty members receive the most criticism regarding the introduction, method, discussion sections, and use of the language from the journals to which they submit their papers for publication.

Some faculty members encounter additional challenges in their research that are not mentioned above. Some faculty members may encounter these difficulties while scanning the literature and reporting the research. In this study, a faculty member from the faculty of education who had difficulties with the literature review stated that certain articles were unavailable. In this study, only one faculty member expressed this situation, while in the research of Yalçın and Altun Yalçın (2017), it was expressed by most of the faculty members. The fact that the literature on the subject studied is scarce and that articles written on similar subjects begin to resemble one another is also considered as difficulties by the faculty members participating in this research. In this study, faculty members from the faculty of education did not report any difficulty with using a foreign language. However, according to the research of Yalçın and Altun Yalçın (2017), faculty members have some difficulties in using foreign language effectively in research processes.

Fifthly, the faculty members' feelings toward the research during the research process were examined. According to the findings, faculty members experience excitement, enjoyment, boredom in the process, happiness, and curiosity the most during the research process. Feeling energetic, cooling down, fatigue, anxiety and stress are also emotions experienced by some faculty members during the research process. During the research process, one of the faculty members reported that his emotional state almost never changed.

Sixth and lastly, the difficulties faculty members face when conducting research were discussed. At this point, it is clear from the research findings that faculty members typically encounter technological and economic problems, bureaucracy, the publication process, and a lack of time when conducting research. In addition, faculty members reported experiencing difficulties during the research process, such as a lack of motivation and an inability to establish the desired research team/gather researchers.

Some faculty members of the faculty of education stated that their research did not receive financial support due to a lack of technological and economic opportunities, and that they lacked access to certain essential devices/materials and software/programs. On the other hand, according to a faculty member the inadequacy of the laboratories where the research will be conducted is among the technological and economic shortcomings that faculty members face during the research process. Although the high wage demands of some journals are considered among the problems encountered in the publication process in this study, it can also be considered as an economic inadequacy. In Murat's (2003) study in which he investigated the burnout of faculty members, it was noted that some faculty members complained about economic inadequacies, but these complaints pertained to their academic studies, not their income. Tuzgol Dost and Cenkseven's (2007) research on the problems of academic staff in state and foundation universities found that some academic staff have trouble getting to the lab and equipment they need for their research. Some of the faculty members who participated in this research, and studies of Babayiğit and Başaran (2017) and Yalçın and Altun Yalçın (2017) stated that bureaucratic difficulties in the research processes negatively affected them. According to this research and the research of Yalçın and Altun Yalçın (2017), some faculty members encounter difficulties during the publication of scientific research. The findings of these two studies show that some faculty members are negatively affected by the prolongation of the publication process. In addition, according to this study and the study of Yalçın and Altun Yalçın (2017), some faculty members experience time and motivation issues during their research processes. The findings of this study, as well as those of Arı (2007) and Babayiğit and Başaran (2017), coincide with the fact that some faculty members were unable to conduct research due to an excessive course load.



Limitations and Recommendation

The data obtained in this study are limited to the answers given by the 19 faculty members participating in the study to the questions in the semi-structured scale form developed by the researchers.

Considering that some faculty members have attributed their difficulties in writing the introductory part of the articles to the deficiencies in written expression skills, it can be suggested that more emphasis should be placed on teaching written expression skills at undergraduate and graduate education levels.

According to some faculty members, teachers may be reluctant to participate in scientific research. It may be suggested to carry out studies on how teachers can be encouraged to participate in scientific research.

Acknowledgements or Notes:

We would like to thank the faculty members who participated in our study and shared their valuable views on research processes with us.

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Biographical notes:

Cüneyt ÇAPRAZ: He graduated from Atatürk University, Department of Chemistry Teaching. He completed his doctorate in chemistry education at Atatürk University, Institute of Educational Sciences. He is currently working as an Assistant Professor at Alanya Alaaddin Keykubat University.

Aslıhan KILIÇ: She graduated from Marmara University, Department of Elementary Education. She is a PhD student in elementary education at Marmara University, Institute of Educational Sciences. She is currently working as a research assistant at Alanya Alaaddin Keykubat University.