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Opinions and Attitudes of Education Faculty Students towards Research Methods in Education Course

Yeliz ÇELEN¹

¹ Faculty of Education, Amasya University, Amasya, Türkiye  0000-0002-7991-4790

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ABSTRACT

Research is the whole of the systematic efforts of individuals by making new discoveries and inventions to find solutions to the problems they face or to improve the current situation. After the implementation of teacher training activities by higher education institutions, courses such as "Research Techniques", "Research Methods in Education" and "Research Methods" are included in the curriculum of higher education institutions to provide students with research competencies. It is important for prospective teachers to have positive attitudes towards this course for them to acquire the knowledge and skills in question effectively. In this direction, in this study, it was tried to determine the attitudes and opinions of teacher candidates towards the Research Course in Education. In this research, in which the attitudes and opinions of Bayburt University Faculty of Education students towards the RME course are tried to be determined, mixed method and explanatory sequential design was used. In the study, a single survey model was used to determine the attitudes of students towards the RME course, a relational survey model was used to examine the sub-dimensions of attitudes according to the departments and classes of the students, and focus group interview was used to determine their views about the course. The Kruskal Wallis H test was used to determine whether the attitudes of the groups showed an independent evaluation from each other. In the research, an attitude scale developed by the researcher was used as a data collection tool to determine the attitudes of the students towards the RME course, and a focus group interview form was used to determine their opinions. The quantitative sample of the study consists of 190 university students selected through purposive sampling, and the qualitative sample consists of 10 candidate teachers selected from this group with the same method. When the research findings were examined, it was seen that the attitudes of the novice teachers towards the RME course differed significantly in favor of men according to the self-confidence variable in the sub-dimensions of the attitude scale. It is thought that including the RME course, which is among the elective courses in Education faculties, among the compulsory courses, extending the one-semester and 3-credit RME course in terms of credit.

Keywords:

Research methods in education, attitude, research [Metin girmek için burayı tıklayın.](#)

1. Introduction

Research is all the systematic efforts that individuals make by making new discoveries and inventions to find solutions to the problems they face or to improve the current situation. These efforts are used to find the information that will constitute the solution, to determine whether it is true or not, and to develop different solution proposals by using this information.

In order to conduct research, it is necessary to collect data related to the problem, analyze it with appropriate methods and evaluate the results. During the establishment of these processes, it is important to follow the systematic processes without leaving scientific knowledge. Scientific Research Methods Course has been added to the curriculum of higher education institutions to transfer the studies to be carried out for this

¹ Corresponding author's address: Amasya University, Faculty of Education, Amasya /Türkiye

e-mail: yelizcelen@hotmail.com

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purpose, especially to teacher candidates. Following the implementation of teacher training activities by higher education institutions, courses such as "Research Techniques", "Research Methods in Education" and "Research Methods" were included in the curriculum of higher education institutions to provide prospective teachers with the knowledge and skills to conduct research. While listing the innovations envisaged by the new regulation in teacher training programs in 2006, expressions such as increasing the intellectual accumulation and skills of novice teachers by increasing the duration of general culture courses were used (YÖK, 2006).

With the changes made by YÖK in teacher training undergraduate programs in 2018, the name of the course named Scientific Research Methods has been updated as Research Methods in Education (RME), and it is still applied with its old name in many higher education institutions. The aim of this course is to teach individuals the basic principles and concepts related to research methods, information about research processes, the competencies related to sampling, data collection, analysis and evaluation stages for the determination and solution of the problem situation, and the concepts related to research designs and types. It is aimed to gain basic knowledge and skills about preparing documents in accordance with research ethics. In order for teacher candidates to gain the aforementioned knowledge and skills effectively, it is important that their attitudes toward this lesson be positive. In this respect, in this study, it was tried to determine the attitudes of teacher candidates towards the RME course.

When the attitudes of teacher candidates towards the RME course were examined, it was observed that there were limited studies on the subject. It was aimed to develop an attitude scale in the research conducted by Yaşar (2014) in which it was aimed to determine the attitudes of pre-service teachers studying in the field of social sciences towards the RME course. There are studies that show that pre-service teachers have problems in data analysis and evaluation processes due to their low proficiency in mathematics and statistics courses, and therefore they develop negative attitudes towards the RME course (Onwuegbuzie & Wilson, 2003, Atramovich, Okech, & Hoskins, 2004). Within the scope of these studies, it was found that the RME course increased the interest and self-efficacy levels of teacher candidates in research processes (Bard et al. 2000, Saracaloğlu et al., 2005; Unrau & Beck, 2004, cited in Biçer, 2021). However, there are also studies showing that there are students who develop negative attitudes towards this type of course due to concerns about statistical procedures, especially in the quantitative research parts of the scientific research methods course (Baloğlu, 2003; Onwuegbuzie & Daley, 1998; Lehtinen & Rui, 1995;). In the study conducted by Aydın and Kurtuldu (2010), it was concluded that the students studying in fine arts in the study group had positive attitudes in this context because they believed in the importance of the RME course and its necessity in their professional life. It has been determined that, in addition to the teaching assistantship in education, they could not make an experimental definition of a research conducted by Küçükkoğlu, Taşgın, and Çelik (2014), explain its purpose as a comprehensive proof, and not know the research stage scientifically. It is necessary and protective for a scientific point of view in gaining knowledge and competences in the field that teachers gain scientific attitudes and attitudes, which are among their students' acquisition of this training, and that they act in accordance with these principles (Erdem, 2007). Determining their attitudes and course towards this course, which is used for this purpose, is in the nature of the preliminary preparations of these studies and will play an important role in the preparation of higher education programs and in determining the content of in-service trainings for teachers.

In the studies conducted by Kurt et al. (2011), when the students' views on the RME course are examined, it is seen that the students' views on the RME course according to cognitive, occupation, importance and psychological dimensions do not show a significant difference according to class, university, gender, and academic grade point averages. In the study carried out by Çetin and Dikici (2014), it was seen that most of the students stated that they eliminated the basic deficiencies in the subjects such as determining a research question, applicability, limits, and solution method of the RME course. It is thought that determining student attitudes towards this course will contribute to the teaching staff of the course and to the effective and efficient teaching of the course. However, it is seen that the studies conducted examined the students' attitudes towards this subject according to the department and class variables, and they reached different findings in these studies (Biçer, Bozkırlı, & Er, 2013, Ekiz 2006). For this reason, it is thought that making new and up-to-date determinations about whether students' attitudes towards these components have changed with the newly developed scale will contribute to the field. With this research, it was aimed to determine whether the students'

attitudes towards this course were affected by the variables of department and class, with the change of the name and content of the Research Methods in Education course. Thus, by examining the attitudes and views of the students towards the course, it was tried to determine the new orientations regarding this course, its content and teaching methods.

In accordance with this purpose, in this research, answers are sought to the following questions:

- What is the level of pre-service teachers' attitudes on the basis of general and sub-dimensions?
- Do the attitudes of prospective teachers show a significant difference according to their department?
- Do the attitudes of prospective teachers show a significant difference according to their class?
- What are the opinions of the prospective teachers about the Research Method in Education course and its applications?

2. Methodology

In this study, quantitative and qualitative research methods were used together.

2.1. Quantitative Research Model

This research was carried out by using mixed method and sequential explanatory design was used in the study. The quantitative part of this research, in which the attitudes of Bayburt University Faculty of Education students towards the RME course were tried to be determined, was carried out in the survey model. In the research, the singular survey model was used to determine the attitudes of the students towards the EAY course, and the relational survey model was used to examine the sub-dimensions of their attitudes according to various variables. Survey models generally aim to investigate and explain the existing situation or reality as it is, and the scattered data collected about the researched phenomenon will be classified and organized. and it will be analyzed (Karasar, 2012) According to Karasar (2012), the screening model; The individual or object that is the subject of the research is tried to be defined in its own conditions and as it is. No effort is made to change or influence the variables in any way.

2.2. Quantitative Research Sample

The quantitative sample of the research consists of students studying in different departments of Bayburt University Faculty of Education. Since the purposeful sampling method was used in the selection of the sample, three departments that took the course, were accessible, and were found to be numerically suitable as a researcher to be included in the sample were selected. The number of students in other departments was insufficient or it was not possible to reach them. The distribution of students according to departments and classes is given in Table 1.

Table 1. Students Constituting The Research Sample and Their Distribution.

| Section | Class | Male | Female | Total |
|---------------------|-------|------|--------|-------|
| Turkish Teaching | 1. | 8 | 12 | 20 |
| | 2. | 8 | 12 | 20 |
| | 3. | 8 | 12 | 20 |
| | 4. | 5 | 15 | 20 |
| English Teaching | 1. | 10 | 10 | 20 |
| | 2. | 10 | 10 | 20 |
| | 3. | 10 | 10 | 20 |
| | 4. | 5 | 5 | 10 |
| Pre-School Teaching | 1. | 5 | 5 | 10 |
| | 2. | 5 | 5 | 10 |
| | 3. | 5 | 5 | 10 |
| | 4. | 2 | 8 | 10 |
| Total | | 81 | 109 | 190 |

The sample of the study was created through purposive sampling and the items of the attitude scale were presented to the students online. Analyzes were carried out in line with the answers received.

There are studies on the necessity of the sample size to be in different proportions to interpret the scientific research correctly. Among them, Kline (1994) states that the sample size should be 10 times the number of items in the applied scale for the studies to be valid and generalizable (Kline, 1994). While Hair, Anderson, Tatham, and Black (1995) state that a sample size/scale item ratio of 20:1 is suitable for research, Comrey and Lee (1973) state that it is perfect if the number of people is greater than 1000, regardless of the number of scale items.

Considering that the number of attitude scale items in the data collection tool to be used in the research is 20, it is observed that the number of students in the study group of the research meets the sample size criteria specified in all these studies.

2.3. Collection of Quantitative data and Procedure

An attitude scale developed by the researcher was used in the study. The attitude scale was prepared to determine the attitudes of the students towards the RME course.

Attitude Scale

For developing an attitude scale, a literature review was conducted by the researcher, and in addition, a composition containing their views on the RME course was written to the students. By examining and combining the aforementioned documents, 45 attitude items indicating the attitude towards the RME course were formed. Attitude statements were placed in a 5-point Likert-type scale structure from 1 to 5, after the attitude items were checked by a group of field experts consisting of Turkish teachers in terms of language and by a group of field experts consisting of field experts from educational sciences to see if they expressed an attitude statement.

Content Validity Studies: The content validity index and content validity rates of the obtained items were calculated. The content validity index was determined by grading as necessary, useful but insufficient and unnecessary for each item, using the technique developed by Lawshe (1975), in which the opinions of a maximum of 40 and at least 5 experts were sought. In this way, for the sub-dimensions of the scale, CGI=0.90 and CVR=0.65 for the 1st Factor, CGI=0.92 and CVR=0.74 for the 2nd Factor, and CGI=0.95 and CVR=0.67 for the 3rd Factor.

The scale in question was applied to 100 students studying in different departments at the Faculty of Education after this configuration, and those with an item correlation value below .40 were excluded from the attitude scale. As a result of these studies, a total of 21 attitude statements remained in the scale. Afterwards, exploratory, and confirmatory factor analysis was applied to the RME attitude scale. According to the results of this factor analysis, it was observed that the attitude statements in the scale were grouped under three factors.

The Cronbach Alpha internal consistency coefficients of the scale, which was prepared to determine the attitudes of the students towards the RME course, were calculated according to the various sub-dimensions of the scale. The data related to the three dimensions in the scale are summarized in Table 2.

Table 2. Reliability and Validity of the Attitude Scale

| | Contribution to the profession | Confidence | Contribution to the daily life |
|-----------------------|--------------------------------|------------|--------------------------------|
| Conbach Alfa | .73 | .75 | .78 |
| KaiserMeyer-Olkin | .75 | .76 | .78 |
| Valid Number of Items | 5 | 5 | 11 |

As a result of the analysis, it was taken as basis that the factor load values of the attitude scale sub-dimension scores were not below .30, and the items with the difference between the item load values below .20 were also removed from the scale and the analysis was repeated. As a result of repeated factor analysis, the Cronbach's alpha value of the three-dimensional attitude scale was found to be .761, KMO as .77 and Bartlett test of Sphericity= 882.23. The results of the inconsistent factor analysis related to the attitude scale are given in the table below.

Table 3. Variable Factor Analysis Results Regarding the Attitude Scale

| Item Number | Factor Common Variance | Load Value After Rotation | | |
|-------------|------------------------|---------------------------|----------|----------|
| | | Factor 1 | Factor 2 | Factor 3 |
| Item 1 | .874 | .912 | | |
| Item 2 | .804 | .846 | | |
| Item 3 | .704 | .765 | | |
| Item 4 | .615 | .742 | | |
| Item 5 | .548 | | .601 | |
| Item 6 | .765 | | .789 | |
| Item 7 | .709 | | .742 | |
| Item 8 | .805 | | .808 | |
| Item 9 | .658 | | .692 | |
| Item 10 | .890 | .907 | | |
| Item 11 | .513 | | | .621 |
| Item 12 | .517 | | | .579 |
| Item 13 | .673 | | | .691 |
| Item 14 | .625 | | | .645 |
| Item 15 | .564 | | | .613 |
| Item 16 | .632 | | | .804 |
| Item 17 | .761 | | | .790 |
| Item 18 | .651 | | | .685 |
| Item 19 | .814 | | | .863 |
| Item 20 | .768 | | | .782 |
| Item 21 | .543 | | | .648 |

According to the data obtained from the factor analysis results, it is seen that the correlation coefficients of the three factors of the attitude scale expressions with each other are greater than .35 and the Pearson correlation coefficients are .675, .768 and .690, respectively. It has been seen that the first factor of the RME attitude scale consists of five items called contribution to the profession, the second factor is called self-confidence and consists of five items. It is seen that the third factor of the scale is called contribution to daily and professional life and consists of eleven items.

Confirmatory Factor Analysis: For confirmatory factor analysis, data were collected again from 100 people different from the research group and the values of the fit index were examined. Therefore, the fit criteria obtained at $p > 0.001$ significance level are given below.

Table 4. Confirmatory Factor Analysis Fit Criteria

| Fit size | Value | Fit |
|-----------|-------|----------------|
| Kikare/sd | 2,34 | Perfect fit |
| RMSEA | .071 | Good fit |
| SRMR | .065 | Good fit |
| NFI | .85 | Good fit |
| NNFI | .90 | Good fit |
| CFI | .90 | Good fit |
| GFI | .86 | Acceptable fit |
| AGFI | .85 | Acceptable fit |

The scale obtained as a result of confirmatory factor analysis consists of 21 items and the lowest score that can be obtained from the measurement tool is 21 and the highest score is 105. The internal consistency coefficients for the whole and sub-dimensions of the measurement tool are presented in Table 5.

Table 5. Retention Coefficients for Scale and Sub-Provisions

| | Cronbach Alfa |
|-----------|---------------|
| All scale | .920 |
| 1. Factor | .868 |
| 2. Factor | .779 |
| 3. Factor | .762 |

The Spearman-Brown coefficient obtained by dividing the test into two equal parts is 0.845.

2.4. Analysis Of Quantitative Data

In the study, when the attitudes of the Faculty of Education students towards the RME course were examined, it was observed that the attitude scores did not show a normal distribution. In the light of the sub-problems given for the analysis of the data, Kruskal Wallis H test and Mann Whitney U test were used for for group comparisons.

2.5. Qualitative Research Model

A focus group interview form was used for the qualitative part of the research. Focus group interviews are interviews conducted within the framework of predetermined guidelines within the scope of a topic or service to understand people's thoughts and feelings (Yıldırım and Şimşek, 2011). The purpose of determining the observation of the view towards the lesson with group focus in the research.

2.6. Qualitative Research Sample

The sample of the qualitative part of the research consists of 10 pre-service teachers selected through purposive sampling, who are thought to be able to express their views more easily among the students selected to collect the quantitative research data. According to Edmunds (2000), the perspective of the person in focus group interviews can reduce the outcome of the relationship and interaction between the person who will see 10.

2.7. Collection of Qualitative Data and Procedure

In the qualitative part of the study, a focus group interview form was used as a data collection tool.

Focus group interview form

The focus group interview form was used as a data collection tool in the research. While preparing the focus group interview form, the literature was scanned, and the questions were asked to the opinion of an expert group. The questions of the focus group interview form that the experts agreed on are given in Table 6.

Table 6. Focus Group Interview Form Questions

| Question Number | Question |
|-----------------|--|
| 1 | Do you find the Research Methods in Education course necessary? |
| 2 | What do you think about what the Research Methods in Education course has given you? |
| 3 | What are your views on the teaching processes of the Research Methods in Education course? |

2.8. Analysis Of Qualitative Data

In the study carried out to determine the opinions of the pre-service teachers, the answers given by the novice teachers were examined using content analysis. As a result of the content analysis, sub-theme titles were determined from the answers given by the teachers and the answers given by the participants under these themes were exemplified. The answers given by the participants are shown as P1, P2, P3.... by giving numbers to the participants.

2.5. Ethical

In this study, all the rules specified to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were complied with.

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Date of Ethics Evaluation Decision: 23.05.2022

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3. Findings

As a result of the research, firstly, the findings about how the attitudes of teacher candidates are distributed within the scope of general and sub-dimensions are given. The data obtained in this context are presented in Table 7.

Table 7. *Distribution of Novice Teachers' Attitude Scale Sub-Dimension Scores by Attitude Scale Sub-Dimensions*

| Attitude Scale Dimension | N | N | Average | Standart Deviation | Standart Error |
|--------------------------------|--------|-----|---------|--------------------|----------------|
| Contribution to the profession | Female | 109 | 47,168 | 3,67 | ,2643 |
| | Male | 81 | 41,354 | 3,48 | ,2141 |
| Confidence | Female | 109 | 36,624 | 5,67 | ,2891 |
| | Male | 81 | 38,756 | 5,81 | ,2703 |
| Contribution to the daily life | Female | 109 | 48,761 | 3,68 | ,2975 |
| | Male | 81 | 46,234 | 3,24 | ,2424 |

As seen in Table 7, according to the distribution of the average scores of the attitude scale according to the sub-dimensions of the scale, it is seen that the dimension with the highest mean scores of the scale sub-dimensions is the dimension of contribution to daily life. When the contribution to daily life dimension is considered, the average score of female novice teachers is 48,761, while the average of the attitude scale sub-dimension scores of male teachers is 46,234.

The findings regarding the attitudes of the students within the scope of the research towards the RME course according to their department and grade level are given below. The change in the attitudes of teacher candidates towards the RME course according to the department they are studying. The results of the Kruskal Wallis H test on whether the attitudes of the teacher candidates towards the RME course differ according to the department they studied are given in Table 8.

Table 8. *Kruskal Wallis H Test Results on Whether the Attitudes of Prospective Teachers towards the EAY Course Differ According to the Department*

| Program | N | Rank Average | sd | x ² | p |
|---------------------|----|--------------|------|----------------|------|
| Turkish Teaching | 80 | 256,65 | | | |
| English Teaching | 70 | 221,73 | 3,40 | 4,614 | .156 |
| Pre-School Teaching | 40 | 101,02 | | | |

According to the results of Kruskal Wallis H test, students' attitudes towards the RME course do not show a significant difference according to the department they graduated from ($p > .05$). The results of the Kruskal Wallis H test, which was conducted to determine whether the attitudes of teacher candidates towards the RME course change according to their grade levels, are given in Table 9.

Table 9. *Distribution of Prospective Teachers' Attitudes Towards RME Course by Class Variable*

| Class | N | Rank Average | sd | x ² | p | Significant Difference |
|--------------|----|--------------|-----|----------------|------|------------------------|
| First Class | 50 | 124,80 | | | | |
| Second Class | 50 | 164,20 | | | | First and Fourth Class |
| Third Class | 50 | 156,64 | 3,4 | 8,62 | .022 | |
| Fourth Class | 40 | 192,46 | | | | |

When Table 9 is examined, it is seen that the attitudes of the novice teachers towards the RME course differ significantly according to the grade level variable ($x^2 = 8.62$, $p < .05$). When the test results regarding the source of the difference were examined, it was found that this difference was between the fourth and first grades.

The findings and sample answers regarding the opinions of the novice teachers about whether they find the Research Methods in Education course necessary or not are given in Table 10.

Table 10. *Opinions of Candidate Teachers About Research Methods in Education Course*

| Theme | f | Participant | Sample Answers |
|---------------|---|-------------------------------------|--|
| Necessary | 9 | P1, P2, P3, P4, P5, P7, P8, P9, P10 | P3: I find the Research Methods in Education course necessary. I think it is necessary for teachers who want to do graduate studies or develop projects in their schools to learn the steps and methods of scientific research. P9: For understanding other courses in the field of education, terms such as research, science, knowledge, research methods must be understood and what they mean in practice. That's why taking this course is so important. |
| Not Necessary | 1 | P6 | P6: I don't think it's necessary. I think that especially students studying in social fields do not need to learn this many statistics. |

As can be seen from Table 10, 90% of the novice teachers state that the course is necessary and emphasize that this course is a prerequisite course that will facilitate the teaching of other courses. Again, candidate teachers state that this course is necessary for learning and applying scientific research processes.

The judgments and sample answers regarding the achievements of the candidate related to the Research Methods in Education course are given in Table 11.

Table 11. *Opinions of the Candidates About Their Achievements in Research Methods in Education Course*

| Theme | f | Participant | Sample Answers |
|---|---|--------------------|--|
| Acquisitions related to scientific research | 3 | P4, P5, P9 | P5: Thanks to this course, I learned how to conduct scientific research, and through which processes I can obtain quality data. P4: I learned a lot about research ethics and analysis. |
| Personal gains | 5 | P1, P2, P6, P7, P8 | P1: In this course, I learned to use different computer programs such as SPSS. I personally felt empowered to plan and conclude a study. P7: I felt equipped and ready for other lessons. |
| Profession-oriented gains | 2 | P3, P10 | P10: I learned a lot of different information that I can use in my teaching profession in the future. |

As can be seen from Table 11, it was seen that 50% of the novice teachers stated that they made personal gains from the course, and 30% of them stated that they gained proficiency in applying scientific research processes in the course.

Most of the candidate's answers regarding the teaching process of research methods in education course and sample opinions are given in Table 12.

Table 12. *Research Methods of Prospective Teachers in Education Judgment About The Teaching Course of The Course*

| Theme | f | Participant | Sample Answers |
|---------------------|---|-------------------------|--|
| Tools and Materials | 2 | P6, P7 | P6: Downloading different programs in the course sometimes causes time and sometimes license problems. |
| Lecturer | 2 | P1, P5 | P5: The attitude of the lecturer and the way she teaches the lesson are very important. |
| Lesson Duration | 6 | P2, P3, P4, P8, P9, P10 | P2: Lesson time is not enough for applications. For this, the time needs to be increased. P9: Lesson time is never enough. It is not possible to start and end an analysis. |

Looking at the table, it was seen that 60% of the novice teachers stated that the duration of the course was insufficient, 20% stated that the way the lecturer taught the course and 20% stated that the inadequacies in the use of materials and materials directly affected the course teaching processes.

4. Conclusion and Discussion

When the research findings were examined, it was found that the attitudes of the novice teachers towards the Research Methods in Education course did not change according to the department. This result is also not in line with other research findings (Biçer, Bozkırlı and Er, 2013, Ekiz 2006, 2014, Korkmaz, Şahin and Yeşil, 2011; Karamustafaoğlu and Meşeci 2021; Yenilmez and Ata; 2012, Polat). In some of these studies, it is stated that

the attitudes of the pre-service science teachers towards the course are higher than that of the other novice teachers (Karamustafaoğlu & Meşeci 2021; Can, 2016), while it is explained that due to the nature of the science course, the candidate teachers are given the steps of the scientific research in different processes (Yavuz-Konokman, Tanrıseven and Karasolak, 2013; Polat, 2014). Çakmak, Taşkiran, and Bulut (2015), on the other hand, state that novice teachers (in the field of social studies) have low attitude scores towards the RME course and emphasize that prospective teachers find scientific research processes unnecessary and see it as a waste of time. One of the most striking issues in this research is the conclusion that the students did not find scientific research realistic. Karamustafaoğlu and Meşeci (2021), on the other hand, define the reason for this difference as the different perspectives of the students in different departments about the RME course and the difference between the number of scientific studies they have done during their undergraduate education (Karamustafaoğlu and Meşeci, 2021). Aşıroğlu (2006) also states that novice teachers studying in the guidance department in the RME course are more successful than the novice teachers studying in the department of teaching for the gifted, and states that this may be due to the different levels of success of the students in different branches or the differences between the courses they have taken before. There are differences between the compulsory courses taken by different teacher candidates within the education faculty and their readiness for the RME course. It is thought that the differences between pre-service teachers' attitudes towards the RME course may be due to these departmental and personal differences.

As a result of the research, it is seen that student attitudes show a significant difference according to the grade level. In the study conducted by Kurt et al. (2011) in which the views of pre-service teachers towards this course were examined, it was determined that there was a significant difference in favor of the 3rd grade students in the subjects such as the 4th grade teacher candidates' RME course is more important than the other courses and they wanted to study the course for a long time. It is stated that they are afraid of the MR course, and they do not feel confident in the problem-solving processes related to this course. Like this study, Aşıroğlu (2006) also stated in his study that he determined the attitudes of the novice teachers towards the scientific research methods course, and that the attitude scores of the novice teachers studying in the fourth grade were higher than those of the teachers studying in the third grade. Based on these findings, it can be concluded that the 4th grade students took some courses that could be the basis of the RME course and that they acquired positive attitudes towards the RME course or were successful with the gains they gained from these courses.

As a result of the study conducted by Ayaydın and Kurtuldu (2010), it is seen that the students have developed a high awareness of the RME course in the short term and generally criticize the course in terms of content, functioning and evaluation. It is stated that the students' answers to many items as I am undecided are due to the fact that the course application is new in this period. In this respect, it is thought that the results of the study will be more generalizable considering that the course is applied for a long time today.

Karamustafaoğlu and Meşeci (2021) also found that there was no significant difference in the attitudes of teacher candidates when gender was considered in their study, in which they examined the attitudes of prospective teachers in different programs towards the RME course in terms of various variables. The findings of this study overlap with the findings of many studies (Biçer, Bozkırlı, & Er, 2003; Polat, 2014; Yenilmez & Ata, 2012). According to the findings obtained in the study conducted by Dombaycı and Ercan (2017), it was determined that the attitude scores of female teacher candidates towards the RME course were significantly higher than that of males. Again, in the study conducted by Çakmak Taşkiran and Bulut (2015), no significant difference was found according to gender in the opinions of novice teachers regarding their negative attitude scores regarding research studies ($p=,567$). Kurt et al. (2011). However, it is seen that there is a significant difference in favor of female students in terms of the importance of scientific research, interest and daily life, cognitive self-confidence, and professional relationship factors of the Karamustafaoğlu and Meşeci (2021) attitude scale. Again, in some studies, a significant difference was found in attitudes towards the BAY course in favor of female students in different categories (motivation, interest, importance, university, institute, taking research methods course) (İlhan, Çelik, & Aslan, 2016; Saracaloğlu, Varol, & Ercan, 2005). Some researchers state that this result is due to the fact that female students are more willing to research and male students do not have enough knowledge and experience in research (İlhan, Çelik, & Aslan, 2016). In their study, in which they examined the students' opinions about the RME course, they stated that the female students had positive opinions that this course improved their skills such as problem solving and scientific thinking. Again, in this study, it is seen that male students stated that the RME course includes information used in daily life and is

not related to the teaching profession, while female students, on the contrary, stated that the RME course is important and provides information that they can use in the future. On the other hand, there are also studies stating that female students are more successful and have more positive opinions in RME than male students (Tay, 2009; Ellez et al., 2009; Mills, 2004).

In Akgün's (2012) study, in which he tried to determine the perceptions of novice teachers about the scientific research methods course, it was stated that the analysis of the articles made in the RME course gave the students awareness about the scientific research processes, but it was emphasized that the students also had negative attitudes towards the course. It was observed that the students stated that it would be appropriate to include this course among the graduate courses instead of teaching it to the undergraduate students of the Faculty of Education, and it was concluded that this course negatively affected the thoughts of the novice teachers about doing graduate education (Akgün, 2012).

The research archive shows that the cluster for RME changed according to the grade level, but did not change according to the regulation, and the prospective student stated that this faculty member requirement should be complied with, but that the distribution at the upper grade level would be more appropriate. This introduction is an exercise in which you are supported by the qualitative operation of the quantitative research section on the class variable.

5. Recommendations

In this respect, it is appropriate to provide pre-service teachers with basic knowledge and concepts through different source courses before giving the RME course, to apply the course to the 3rd or 4th grade students considering the readiness of the pre-service teachers, and to take the measurement and evaluation course in education, which is the premise course of the course, before the RME course. is thought to be.

Looking at the results of the research, it was seen that the novice teachers generally found the course necessary and stated that the course contributed to their personal development, and they made a request for the extension of the course.

It is thought that including the RME course, which is among the elective courses in Education faculties, among the compulsory courses, extending the one-semester and 3-credit RME course in terms of credit and duration, or structuring the course as RME 1, RME 2 will contribute to the positive attitudes of the teacher candidates towards the course.

6. References

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