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# EXAMINING THE OPINIONS OF PRIMARY SCHOOL TEACHER CANDIDATES ON MICROTEACHING PRACTICES IN THE LIFE SCIENCE TEACHING COURSE

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## Abstract

The aim of this research is to examine the opinions of prospective primary school teachers about microteaching practices in the Life Science Teaching course. The research was structured in accordance with the case study, one of the qualitative research approaches. The study group of the research was composed of of 12 teacher candidates studying in the primary school teaching undergraduate program of a state university in Turkey. In the research, a semi-structured interview form developed by the researcher was used as a data collection tool. The data obtained in the research were analyzed using content analysis method. In the research, it has been determined that the Life Science Teaching course is a suitable course for microteaching applications, and the reasons for this are that the course and the method reflect real-life situations, it is suitable to contribute to the teaching process, it strengthens the teaching abilities of the pre-service teachers and enriches the teaching process. In addition, in the research, it has been revealed that the microteaching practices carried out in the Life Science Teaching course contributes to the candidate teachers for gaining experience while teaching, understanding the classroom management, having knowledge about the structuring of the lesson, instantly noticing, and correcting the problems and mistakes that may arise in the teaching process.

***Keywords:*** Life Science teaching; primary school teacher candidates; microteaching; teaching methods.



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## 1. Introduction

In today's world, where change and development are inevitable, the Life Science course is one of the leading courses in which students can gain knowledge, skills and values that facilitate their adaptation to the societies they live in. The Life Science course is a very important course in that it can constantly renew itself based on current events, transform the classroom environment into a way to rehearse life, and lay the foundations of life-long academic development. However, this course provides important contributions to the development of individuals as good people and honest citizens and to take their place in the social structure.

The Life Science course, which is built on the concepts of life and knowledge, forms the basis of the sciences on one side and the basis of the social sciences on the other (Güleryüz, 2008). This course, which provides the skills to search for answers to possible problems in daily life, facilitates the adaptation of individuals to their daily lives (Öztürk, 2015). In addition, it enables individuals to interact with the social, cultural, natural and historical factors that exist in the environment they live in (Binbaşıoğlu, 2003; Sönmez, 2005). The teaching of the Life Science course, which is so important for students, is at least as important as itself. Primary school teachers are at the forefront of people who will make the Life Science course an effective and productive process. As a matter of fact, primary school teachers have to improve themselves in this regard both when they start the profession and before they even start, in order to fulfill this mission, they have.

The steps to be taken and the measures to be taken before starting the profession have important effects on the successful completion of this process and taking their place in the education system. Therefore, pre-service teachers should be supported to take the developer steps throughout their undergraduate education. This is possible if pre-service teachers get to know the teaching profession in detail in their learning processes and gain experience in this subject as much as possible. It can be mentioned that there are many teaching methods that will enable pre-service teachers to gain experience in the teaching profession during their undergraduate education and to allow them to organize their own learning processes. One of these methods is the microteaching method.

Microteaching method, which was started to be applied for the first time at Stanford University in 1960, is an effective method that has preserved its validity until today and contributes to the training of teacher candidates (Bell, 2007). This method, which aims to design an effective teaching process by combining theory and practice, allows pre-service teachers to plan and practice teaching strategies and allows pre-service teachers' behaviors to be observed during the teaching process (Hall & Leveridge, 2006).

The microteaching method, pre-service teachers can receive feedback from four basic sources, and thanks to these feedbacks, they make the steps they will take in the teaching profession even stronger. These resources are; video recordings are stated as the responsible

lecturer of the course, those who listen to the course and the peers who attend the course as students. Effective use of these resources in the teaching process; It determines the quality of the feedback that teacher candidates will receive, thus helping to shape their teaching experience.

The literature is examined, it is noteworthy that there are many Science on the application of microteaching method. For example, Marulcu and Dedetürk (2014) conducted an action research on pre-service science teachers' applications of the microteaching method and stated that thanks to this method, pre-service teachers were able to identify and correct their deficiencies in the process. Bulut, Açık, and Çiftçi conducted a study with Turkish teacher candidates in 2016 and examined the effect of microteaching method on speaking skills. In the study, which was structured according to the experimental design, Bulut, Açık, and Çiftçi (2016) concluded that the speaking skill scores of the students in the experimental group, in which the microteaching method was applied, were higher than the scores of the students in the control group. Balcı and Yanık (2022) aimed to develop the range of physical education teacher candidates' teaching styles with microteaching method and stated that as a result of the research, teacher candidates developed teaching skills suitable for more students' learning styles. Küçükgöz (2019) worked with prospective primary school teachers as a participant group in his master's thesis he completed and examined the effectiveness of the microteaching method in using interactive whiteboards. As a result of the research, Küçükgöz (2019) emphasized that thanks to the microteaching method, primary school teacher candidates used the interactive whiteboard more and the practice produced positive results. Yıldız (2022) examined the evaluations of primary school mathematics teacher candidates regarding microteaching method and stated that because of these evaluations, examining the teaching processes carried out by the pre-service teachers and giving feedback on this subject improved them.

In the light of the information above, it is possible to state that the microteaching method is an effective teaching method applied in various courses and in different pre-service teacher groups. However, there is no study in the literature on any microteaching application that was carried out in the Life Science course with the primary school teacher candidates. The most important reason for the planning of this research is the necessity of revealing the effects of microteaching practices on the education of primary school teacher candidates, especially in the Life Science Teaching course.

The main purpose of this research is to examine the views of prospective primary school teachers on microteaching practices in the Life Science Teaching course. Depending on the main purpose of the research, various sub-research questions were formed as follows:

1. Is Life Science Teaching a suitable course for microteaching implementations?
2. What are the microteaching practices like in the Life Science Teaching course?

3. What are the points that teacher candidates have difficulty in microteaching practices at the end of the Life Science Teaching course?

4. What can be done to make the microteaching practices in the Life Science Teaching course more efficient?

## 2. Method

### *2.1. Research Design*

The microteaching practices in the Life Science Teaching course, is structured in accordance with the case study, one of the qualitative research approaches. Qualitative research, there is an effort to examine, interpret and make sense of a subject in its natural environment (Denzin & Lincoln, 1998, cited in Ekiz, 2003). Due to this effort, the opinions of the people participating in the research are given great importance.

It is possible that the pre-service teachers participating in the research have knowledge and experience about the situation, which constitutes the main purpose of the research, and it is aimed to reveal this knowledge and experience by conducting interviews on this subject. In this context, the research is considered as a case study. As a matter of fact, the case study; It is used to recognize the events that occur through a social structure, a social group, institutions and organizations, to examine them in a cause and effect relationship, to deal with and evaluate the emerging situation and events in depth and detail (Büyüköztürk et al., 2017; McMillian, 2000).

### *2.2. Study group*

The study group of the research consists of 12 teacher candidates studying in the primary school teacher undergraduate program of a state university. The selection of prospective teachers to be included in the research was carried out with the criterion sampling technique, which is one of the purposive sampling methods. The basic understanding in this technique is to run all situations that meet a predetermined set of criteria. The criteria or criteria to be employed can be created by the researcher (Yıldırım & Şimşek, 2006). In the research, the following criteria were created for the prospective teachers who were planned to be included in the study group within the scope of criterion sampling technique:

- To have taken the Life Science Teaching course and to have carried out the microteaching application,
- The overall academic grade point average is “2.00-2.49”; “2.50-2.99”; Being in the range of “3.00-3.49” and “3.50-4.0” and having an equal number of teacher candidates in each average range,
- Volunteering to participate in the study was considered.

In line with the above criteria, 12 teacher candidates to be included in the research were determined. To prevent the participants' identities from being revealed, codes were given to the participants. These codes are S1, S2, S3…. Detailed demographic information about the participants is given in Table 1.

Table 1. Demographic information about the participants

| **Teacher Candidate** | **Gender** | **Class.** | **Overall Academic Grade Point Average** | | | | **Microteaching Implementation Status** |
|---|---|---|---|---|---|---|---|
| | | | *2.00-2.49* | *2.50-2.99* | *3.00-3.49* | *3.50-4.0* | |
| S1 | M | 3 | | ✓ | | | Yes |
| S2 | F | 3 | | ✓ | | | Yes |
| S3 | F | 3 | | | | ✓ | Yes |
| S4 | F | 3 | ✓ | | | | Yes |
| S5 | F | 3 | ✓ | | | | Yes |
| S6 | F | 3 | | | | ✓ | Yes |
| S7 | F | 3 | | ✓ | | | Yes |
| S8 | F | 3 | | | | ✓ | Yes |
| S9 | M | 3 | ✓ | | | | Yes |
| S10 | F | 3 | | | ✓ | | Yes |
| S11 | F | 3 | | | ✓ | | Yes |
| S12 | F | 3 | | | ✓ | | Yes |

When Table 1 is examined, it is seen that 12 pre-service teachers participated in the study, 10 of these pre-service teachers were female and 2 were male, and the grade level of these pre-service teachers was 3rd grade. In addition, when the general academic grade point averages of the pre-service teachers participating in the research are taken as a criterion, it is noteworthy that an equal number of pre-service teachers (3 pre-service teachers) were selected from each range. Finally, in Table 1, there is the information that all the pre-service teachers participating in the research took the Life Science course and carried out microteaching practices within the scope of this course.

### *2.3. Data collection tool*

In the research, a semi-structured interview form developed by the researcher was used as a data collection tool. In the semi-structured interview form, questions are prepared in advance and can be stretched during the interview with supporting questions to deepen the subject, if deemed necessary. With this feature, the person conducting the research can direct the research process (Ekiz, 2009).

The semi-structured interview form used in the research consists of 6 open-ended questions. The questions were carefully prepared considering the characteristics of the semi-structured interview form. While preparing the questions, the relevant literature was scanned and presented to three academicians working in the classroom teaching department of various universities for expert opinion in order to ensure content validity and reliability. In order to evaluate the intelligibility and clarity of the prepared questions, questions were asked to five pre-service teachers, apart from the pre-service teachers who participated in the research, and their opinions were taken. After the specified processes, the semi-structured interview form was given its final form. The questions in the semi-structured interview form were sent to the social and human sciences research ethics committee and the necessary permissions were obtained for implementation. The interview questions in the research are listed below.

- Is the Life Science Teaching course a suitable course for microteaching applications? Why?
- Are the microteaching practices you carried out in the Life Science Teaching course contribute to you? How?
- Are there any negative aspects of the microteaching practices you perform in the Life Science Teaching course? If so, what are they?
- Were there any situations that challenged you in the microteaching practices you carried out in the Life Science Teaching course? If so, what situations occurred?
- Do you have any suggestions regarding the problems encountered in the microteaching practices you performed in the Life Science Teaching course? If so, what are they?
- What are your suggestions for an effective microteaching practice in the Life Science Teaching course?

### *2.4. Data collection and analysis*

While collecting the data of the research, the hours of one-to-one interviews with each teacher candidate were determined. Each of the pre-service teachers was given detailed information about the research before starting the interview, the ethics committee decision about the research was shown, their examination was provided, and they were given time to fill out the voluntary participation form. In addition, it has been informed that personal

information will not be shared with any third party. The interviews were carried out with the approval of the pre-service teachers, accompanied by a voice recorder. The purpose of using a voice recorder is to prevent the researcher and participant from wasting time by taking notes and writing during the interview, and to record the interview audibly to be transcribed later. The interviews with the teacher candidates lasted an average of 20-25 minutes. After all the interviews conducted with the teacher candidates in the determined time periods were completed, the interview recordings on the voice recorder were transcribed. The interview transcript of each participant was presented to the participant, and they were allowed to check their answers to the questions. Checking the answers of the participants is one of the applications used to increase the credibility of the research data (Yıldırım & Şimşek, 2018).

The data obtained in the research were analyzed by content analysis. Accordingly, first all the transcript participant forms were read and a meaningful framework was tried to be created. Then, by creating specific codes, themes and categories, participant statements were systematized and matched with appropriate codes, themes and categories. The codes, themes and categories presented in the research were presented in tabular form and directly supported by participant statements. The coding and matching were carried out by three field experts together with the researcher, and the consistency between the coders was examined. Miles and Huberman (1994) formula were used for consistency between coders and the agreement between coders was calculated as .86. According to Miles and Huberman (1994), a coherence of .70 and above among the coders is sufficient for the consistency and reliability of the research.

### *2.5. Credibility and consistency*

The concepts of validity and reliability, which are frequently used in quantitative research and increase the impact of the research, are replaced by the concepts of credibility and consistency in qualitative research (Lincoln & Guba, 1985). To increase the impact of this research, the concepts of credibility and consistency were emphasized, and necessary actions were taken. As a matter of fact, for credibility; The number of study groups, their characteristics, inclusion criteria, data collection tools, data collection process and data analysis are explained clearly and in detail. In addition, the processes of asking the participants to check their answers and getting confirmation, including direct participant statements and seeking expert opinions were carried out to ensure credibility in the research. According to Cresswell and Miller (2000), these procedures are important steps for research credibility. For the consistency of the research, every process from the beginning to the end of the study is explained in detail. In addition, expert opinions were taken for the measurement tool and the consistency between the encoders was examined in the analysis of the data obtained from the interview form. Based on these processes, it was tried to increase the consistency of the research. As a matter of fact, according to Yıldırım and Şimşek (2018), the aforementioned procedures should be done in order to increase the consistency in research.

### *2.6. Research ethics*

All the rules stated in the "Higher Education Institutions Scientific Research and Publication Ethics Directive" were complied with in the whole process from the planning of this research to its implementation, from data collection to data analysis. None of the actions specified under the title of "Actions Contrary to Scientific Research and Publication Ethics", which is the second part of the directive, were not carried out.

Scientific, ethical and citation rules were followed in the writing process of this study; No falsification has been made on the collected data and this study has not been sent to any other academic media for evaluation.

In addition, the personal information of the teachers participating in the study was kept confidential and the data collected from the project was used only for research.

## 3. Results

In this part of the research, the findings related to the sub-objectives created depending on the main purpose of the research are included.

### *3.1. Finding regarding the first sub-aim*

"Is the Life Science Teaching course a suitable course for microteaching applications?" in the research. The question constitutes the first sub-aim of the research. Findings related to the first sub-goal reached based on the answers given by the pre-service teachers to the questions in the semi-structured interview form are presented in Table 2.

Table 2. Suitability of Life Science Teaching course to microteaching applications

| **Participants** | **Suitability** | | **Reasons** |
|---|---|---|---|
| | *Yes* | *No* | |
| S1 | ✓ | | Reflecting the real-life situation of the lesson and method |
| S2 | ✓ | | Reflecting the real-life situation of the lesson and method |
| S3 | ✓ | | Being suitable to contribute to the teaching process |
| S4 | ✓ | | Strengthening teaching abilities |
| S5 | ✓ | | Enriching the teaching process |
| S6 | ✓ | | Strengthening teaching abilities |
| S7 | ✓ | | Strengthening teaching abilities |

| | | |
|---|---|---|
| S8 | ✓ | Reflecting the real-life situation of the lesson and method |
| S9 | ✓ | Reflecting the real-life situation of the lesson and method |
| S10 | ✓ | Strengthening teaching abilities |
| S11 | ✓ | Enriching the teaching process |
| S12 | ✓ | Being suitable to contribute to the teaching process |

When Table 2 is examined, all the teacher candidates participating in the research stated that the Life Science Teaching course is a suitable course for microteaching applications. The reasons for this situation; It is seen that the Life Science course and the microteaching method reflect real-life situations, that the microteaching method is suitable to contribute to the teaching process, that it strengthens the teaching abilities of the pre-service teachers and enriches the teaching process. The answers given by some of the pre-service teachers to the questions regarding the sub-goal are given below:

> "I think the Life Science Teaching course is a very suitable course for microteaching. Because the more we teachers of the future practice, the stronger our teaching abilities will be. Microteaching offers us to practice…" (S4).
>
> "Yes, it is appropriate. Both the lesson and the microteaching method are life itself and they go together." (S8).
>
> "For me, it is a suitable course. Let me say this; The more enriched the teaching process is, the more effective it will be. This method actually brings us offerings…" (S11).

### *3.2. Findings regarding the second sub-objective*

In the research, "What are the positive aspects of microteaching practices in the Life Science Teaching course?" The question constitutes the second sub-objective of the research. Findings related to the second sub-objective reached based on the answers given by the pre-service teachers to the questions in the semi-structured interview form are presented in Table 3.

Table 3. Positive aspect of microteaching method in Life Science teaching course

| Theme | Categories | Codes | f |
|---|---|---|---|
| Professional development | Experience | Gaining experience in lecturing | 7 |
| | | Understanding classroom management | 5 |
| | | Having an idea about the approach to students | 5 |
| | | Practice in preparing and using materials | 2 |
| | Planning | Having knowledge about the structuring of the course | 8 |
| | | Gaining event planning skills | 4 |
| | | Finding the opportunity to contribute to the process | 1 |
| | Performance | Instantly detect and correct errors | 4 |
| | | See multiple lecture styles | 3 |
| | | Concretizing the topics | 1 |
| | | Gaining public speaking skills | 1 |

When Table 3 is examined, it is possible to state that microteaching practices have various contributions to the Life Science course. Based on the answers given by the pre-service teachers to the interview questions regarding the second sub-goal, codes, categories and themes were created. In this context, the codes with the highest frequency; gaining experience in lecturing, having knowledge about the structuring of the lesson, and instantly recognizing and correcting mistakes. When the categories formed by the combination of similar codes are sorted according to the frequency totals of the codes; experience, planning and performance are listed in Table 3. Finally, when Table 3 is examined, the theme formed by bringing together the created categories in terms of their purpose and meaning emerges as professional development. The answers given by some of the pre-service teachers to the questions regarding the sub-goal are given below:

> "We can come to the blackboard and tell something in the Life Science Teaching course. Microteaching makes it easy for us. It makes us work." (T1).

> "In teaching lessons, we usually focus on the subject to be taught. But in the microteaching method, we become real teachers and our friends' become students. In this way, we begin to understand how to bring the classroom into a good learning environment." (S6).
>
> "The topics covered in the Life Science Teaching course are always concrete and from the real life. But in some places, we have a dilemma about how to convey this to students. With this method, we can leave the dilemmas a little bit." (T12).

### *3.3. Findings regarding the third sub-objective*

In the research, "What are the difficulties of the pre-service teachers during the microteaching practices in the Life Science Teaching course?" The question constitutes the third sub-purpose of the research. Findings related to the third sub-objective reached based on the answers given by the pre-service teachers to the questions in the semi-structured interview form are presented in Table 4.

Table 4. The difficulties of pre-services teachers

| Theme | Categories | Codes | f |
|---|---|---|---|
| Anxiety | Environmental | Inability to see peers through student eyes | 5 |
| | | Monitoring by the instructor | 4 |
| | | Students do not show the necessary seriousness | 3 |
| | | Some students drop out | 1 |
| | Personal | Experiencing excitement and panic | 4 |
| | | Speaking in front of any public | 3 |
| | Instructional | Difficulty working in groups | 4 |
| | | Classroom management | 1 |
| | | Material identification and preparation | 1 |

When Table 4 is examined, it is seen that pre-service teachers had difficulties in various subjects during the microteaching practices carried out in the Life Science Teaching course. Based on the answers given by the pre-service teachers to the interview questions regarding the third sub-goal, codes, categories and themes were created. In this context, the codes with the highest frequency; peers cannot be seen by students, excitement and panic are experienced, and it is difficult for them to work in groups. When the categories formed by the combination of similar codes are sorted according to the frequency totals of the codes; environmental, personal and educational are listed in Table 4. Finally, when Table 4 is examined, the theme

formed by bringing the created categories together in terms of their purpose and meaning emerges as anxiety. The answers given by some of the pre-service teachers to the questions regarding the sub-goal are given below:

> "It is not possible for me to see my friend, who is now in the classroom, as my student. Both he and I can't get used to it. This goes against the purpose of microteaching." (S7).

> "When I start to teach the lesson, it feels like fire comes out of my ears and my heart stops. I try to breathe deeply but in vain. Once I get excited, the rest is not good…" (T10).

> "The Life Science course is a course that gives importance to the concrete. You can also embody a lesson with the best material. But it is not easy to do these things, it takes a lot of our time…" (S9).

### *3.4. Findings regarding the fourth sub-goal*

In the research, "What can be done to make the microteaching practices in the Life Science Teaching course more efficient?" The question constitutes the fourth sub-objective of the research. Findings related to the third sub-goal reached based on the answers given by the pre-service teachers to the questions in the semi-structured interview form are presented in Table 5.

Table 5. Suggestions for more effective use of microteaching method in the course

| Theme | Categories | Codes | f |
|---|---|---|---|
| Suggestion | Forward-looking | Lessons should be taught in primary schools as a continuation of microteaching. | 6 |
| | | Undergraduate courses related to microteaching should be taken | 3 |
| | For the Implementation Process | All students should support microteaching practices. | 3 |
| | | Microteaching should be done at a time | 2 |
| | | Application time should be longer | 1 |
| | | Materials should be used effectively | 1 |

When Table 5 is examined, it is seen that pre-service teachers have offered various suggestions to make the microteaching practices carried out in the Life Science Teaching course more efficient. Based on the answers given by the pre-service teachers to the interview questions regarding the fourth sub-goal, codes, categories and themes were created. In this context, the codes with the highest frequency; As a continuation of microteaching, lessons should be taught in primary schools and all students should support microteaching practices. When the categories formed by the combination of similar codes are sorted according to the frequency totals of the codes; Table 5 for the future and for the implementation process.

Finally, when Table 5 is examined, the theme that is formed by bringing together the created categories in terms of their purpose and meaning appears as a suggestion. The answers given by some of the pre-service teachers to the questions regarding the sub-goal are given below:

> "Microteaching is suitable for the Life Science Teaching course. I think we should do a similar microteaching in primary schools. What we do there will be like the continuation of what we do here, and it will contribute to us." (S4).

> "We did micro-teaching, but if we did it once again, a better teaching process would emerge than the first time we did it. I think it would be great if it was done at least twice a semester…" (T8).

> "Class participation is actually considered good among our friends. But when they try to turn it into a pastime, it's like we're divided. If only everyone could contribute to this process, I think it would be more efficient." (S9).

## 4. Discussion and Conclusion

In this study, it is aimed to examine the opinions of prospective primary school teachers about microteaching practices in the Life Science Teaching course. Within the scope of this purpose, the suitability of the Life Science Teaching course to use the microteaching method, the contributions of the microteaching method to the teacher candidates, the difficulties encountered in the application and suggestions for their improvement were examined in detail. As a result of the examinations, it was concluded that the primary school teacher candidates consider the Life Science Teaching course as a suitable course for microteaching applications. This situation is thought to be caused by factors such as the compatibility of the course and method with each other, contributing to the teaching process and strengthening teaching abilities. As a matter of fact, the teaching process of the Life Science course, which takes its subject from real life situations, is more effective with teaching methods that allow students like himself to experience real life situations. Thus, it is thought that pre-service teachers' competencies in planning, conducting and evaluating teaching activities will increase. In their Sciences, Dere (2019), Tok (2016) and Görgen (2003) state that microteaching practices are a method that can instill confidence in teacher candidates in the teaching process. In this context, the results obtained from the research support this information. In addition, in the research, it was concluded that the microteaching method is an effective method in the Life Science Teaching course in terms of enriching the teaching process and supporting teacher competencies. Duman and Şeyihoğlu (2018) and Gagnon and Collay (2001) state that the interactive nature of the lessons enriches the teaching process. Because interaction is at a high level in microteaching practices, it is possible to state that this result reached in the research is similar to the literature.

Another result reached in the research is that the microteaching method applied in the Life Science Teaching course contributes to the prospective teachers in terms of experience, planning and performance. Considering the requirements of the teaching profession, it turns

out that the concepts are quite important. As a matter of fact, when pre-service teachers start their profession, they will begin to plan their lessons and show teaching performance in line with their plans with the experiences they have gained during microteaching practices. Lin and Gorrell (2001) also emphasized that experience and performance are factors that directly affect teachers' professional competencies, like the results obtained from the research. However, it is thought that microteaching method is very important in terms of gaining classroom management skills, planning the activities, and presenting the subjects aimed to be explained to the students by embodying them in the Life Science Teaching course. This importance has emerged in line with the above-mentioned achievements, and in this way, it is possible for pre-service teachers to see the positive aspects of the teaching profession more and to contribute to their warm-up to the profession.

Another result obtained from the research based on the research findings is that the microteaching practices carried out in the Life Science Teaching course challenge the teacher candidates in various subjects. The subjects that pre-service teachers think they have difficulties in can be basically evaluated as environmental, personal, and instructional. According to Yavuz, Özkaral, and Yıldız (2015), the skills of speaking in front of the public, keeping one's excitement under control, and being able to master the subjects to be taught are among the qualities that teachers should have. Since microteaching practices necessitate these teacher characteristics, it is likely that the stated difficulties may arise for pre-service teachers who are still at the level of gaining experience. As a matter of fact, issues such as getting excited, forgetting, and having difficulty speaking in front of the community are phenomena that are expected to develop with experience and to eliminate their negativities (Şengül, 2015). In this respect, it is thought that microteaching practices are a teaching method that can help teacher candidates in the subjects they think they have difficulty with. The conclusion reached by Erökten and Durkan (2009) and İsmail (2011) in their study, that the microteaching method is an effective method in reducing the negativities of the teaching process, supports the result reached in the research.

Another issue examined in the research is what should be done to make the microteaching practices carried out in the Life Science Teaching course more effective. The Life Science Teaching course, in which microteaching applications are carried out, is included in the undergraduate program as three course hours per week. As such, each teacher candidate has a limited time to perform microteaching practice. It is thought that this situation can be solved with alternatives such as making microteaching practices in different courses and teaching in primary schools as a continuation of the practices carried out in the Life Science Teaching course. As a matter of fact, this idea that emerged from the research is similar to the solution proposals of Sarı, Sakal and Deniz (2006) and Sevim (2013) that emphasized in their Sciences that microteaching should be done in a way that covers more courses and longer durations.

Based on the results of the research, the following suggestions are presented.

- Microteaching practices in primary school teacher education should be used in teaching courses other than Life Science Teaching course.
- Primary school teacher candidates should be allowed to use the microteaching method more.
- Microteaching practices is constructive and developer.
- There should be a separate undergraduate course on microteaching practices.
- Microteaching method should be applied with different teacher candidates than primary school teacher candidates.

## Declaration of Conflicting Interests and Ethics

The authors declare no conflict of interest.

## References

Balcı, T., & Yanık, M. (2022). Mikro öğretim aracılığıyla beden eğitimi öğretmen adaylarını öğretim stilleri yelpazesinde güçlendirmek. *Akdeniz Spor Bilimleri Dergisi, 5*(Özel Sayı 2), 1053-1065.

Balcı, T., and Yanık, M. (2022). To empower prospective physical education teachers across the spectrum of teaching styles through microteaching. *Mediterranean Journal of Sport Sciences, 5*(Special Issue 2), 1053-1065.

Bell, N.D. (2007). Microteaching What is it that is going on here? *Linguistic and Education,* 18, 24-40.

Binbaşıoğlu, C. (2003). Hayat bilgisi öğretimi, Nobel Publishing.

Bulut, K., Fatma, Açık, & Çiftçi, Ö. (2016). The effect of micro-teaching technique on speaking skills of Turkish teacher candidates. *Journal of Mother Tongue Education, 4*(1), 134-150.

Büyüköztürk Ş., Kılıç Çakmak, E., Akgün Ö. E., Karadeniz Ş., & Demirel F. (2017). Scientific Research Methods, Pegem Akademi Publishing.

Dere, İ. (2019). Sosyal bilgiler öğretmen adaylarinin mikro öğretim uygulamasi hakkindaki değerlendirmeleri. *Eğitim ve İnsani Bilimler Dergisi, 10*(9), 31-61.

Duman, N., & Şeyihoğlu, A. (2018). Coğrafya öğretiminde drama ile desteklenmiş yapılandırmacılık 5E modeli ders planı ve görüşler. *Journal of the Institute of Social Sciences Çankırı Karatekin University, 9*(1), 25-46.

Ekiz, D. (2003). Introduction to research methods and methods in education. Anı Publishing.

Ekiz, D. (2009). Scientific research methods: Approaches, methods and techniques. Anı Publishing.

Erökten, S. & Durkan, N. (2009). Micro teaching applications in the teaching methodology course. The First International Congress of Educational Research. University of Çanakkale Onsekiz Mart. 1-3 May 2009. Çanakkale.

Gagnon, G. W., & Collay, M. (2001). Designing for learning: Six elements in constructivist classrooms. Corwin Press.

Görgen, İ. (2003). Mikroöğretim uygulamasının öğretmen adaylarının sınıfta ders anlatımına ilişkin görüşleri üzerine etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi* 24, 56-63.

Güleryüz, H. (2008). Hayat bilgisi öğretimi ve programı. PegemA Publishing.

Hall, R. & Leveridge, M., (2006). The use of video in residential social work staff development, *Social Work Education, 3*(1), 15-18.

Ismail, SAA (2011). student teachers ' microteaching experiences in a pre -service English teacher education program. *Journal of Language Teaching and Research, 2*(5), 1043-1051.

Küçükgöz, EU (2019). Opinions of prospective classroom teachers on the use of interactive whiteboards within the scope of microteaching. (Unpublished master's thesis). Hacettepe University.

Lin, HL, & Gorrell, J. (2001). Exploratory analysis of pre -service teacher efficacy in Taiwan. *Teaching and teacher Education, 17*(5), 623–635.

Lincoln, Y. S., & Guba, E. G. (1985). Güvenilirliği sağlamak. *Doğal Araştırma*, 289, 331-339.

Marulcu, I. & Dedeturk, A. (2014). Science teacher candidates' applications of micro-teaching method: action research. *Journal of Mustafa Kemal University Institute of Social Sciences, 11*(25), 353-372.

McMillan, JH (2000). educational Research: Fundamentals for Consumers. New York: Longman.

Miles, M, B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded Sourcebook. (2nd ed). Thousand Oaks, CA: Sage.

Öztürk, T. (2015). Öğrencilerin hayat bilgisi dersi öğretim programındaki temel becerileri kazanmalarına yönelik öğretmen görüşleri. *Eğitim ve Bilim, 40*(181), 271-292.

Sarı, Y., Sakal, M. & Deniz, S. (2005). Okul öncesi öğretmen yetiştirmede mikro öğretim yönteminin etkililiği. Gaziantep Üniversitesi Akademik Bilişim 2005 Konferansı. Gaziantep Üniversitesi. 02-04 Şubat 2005. Gaziantep. ss. 112-113.

Sengul, M. (2015). Preparing Speech Text and Speech Materials. A. Şahin (Ed.), Speech Education Methods-Activities (235-254). Pegem Academy Publishing.

Sevim, S. (2013). Evaluation of micro-teaching practice from the perspective of teacher candidates. *Dicle University Journal of Ziya Gökalp Education Faculty, 21*(2013), 303-313.

Sevim, S. (2013). Mikro-öğretim uygulamasinin öğretmen adaylari gözüyle değerlendirilmesi. *Dicle üniversitesi Ziya Gökalp eğitim fakültesi dergisi, 21*(2013), 303-313.

Sönmez, V. (2005). Hayat bilgisi öğretimi ve öğretmen kılavuzu. Milli Eğitim Publishing.

Şengül, K. (2017). Yabancı dil olarak Türkçe öğretiminde dil partnerliği (TANDEM) yoluyla gerçekleştirilen öğretimin öğrencilerin konuşma kaygilarina etkisi. *International Journal of Language Academy, 5*(2), 163-175.

Tok, Ş. (2016). Mikro öğretim yönteminin öğretmen adaylarının özyeterlik inançlarına ve mesleğe yönelik tutumlarına etkisi. *Milli Eğitim Dergisi, 45* (212), 5-25. Retrieved from https://dergipark.org.tr/tr/pub/milliegitim/issue/36138/405981

Yavuz, M., Özkaral, T., &Yıldız, D. (2015). Teacher competencies and teacher training in international reports. *SDU International Journal of Educational Sciences, 2*(2), 60-71.

Yellow,Y ., Beard,M . & Deniz,S .(2006 ). The effectiveness of micro-teaching method in pre-school teacher training. http://ab.org.tr/ab05/tammetin/95.doc

Yıldırım, A. & Şimşek, H. (2016). Sosyal Bilimlerde Nitel Araştırma Yöntemleri (Genişletilmiş 10. Baskı). Seçkin Yayıncılık.

Yıldız, H. (2022). Evaluations of primary school mathematics teacher candidates on microteaching practice. Turkish Journal of Mathematics Education, 3(3), 1-25.