AN INTER-DISCIPLINARY TEACHING METHOD: TEAM-TEACHING

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ABSTRACT

The aim of this study is to identify and organize Turkish and Social Study Teacher candidates' ability to use team teaching methods and techniques. Accordingly, teacher candidates' views about team teaching method, its effect on their personal and professional development were tried to be identified. In this action research, participants were consisted of 3 teams of 7 volunteer teacher candidates in Turkish Teaching (4) and Social Sciences education (3). The study pocess was carried out in two stages and two tours. Throughout the process; interview forms, observation forms, reflection diaries, field notes and the notes of evaluation meetings were used as data collection tools. The data collected were analized by the methods of descriptive analysis, content analysis and descriptive statistics. For the theme of team teaching skills; two categories developed as 'personal and professional development'. These categories consisted of the codes of 'self-confidence, cooperation, communication, gaining experience, experience sharing, open-mindedness, subject area knowledge and time management'. Thus they stated and were observed that teacher candidates developed in these areas through the process of team-teaching. Additionally, the ability and awareness of interdisciplinary work has been developed during team teaching and teacher candidates were observed to have positive opinions and perceptions about using team-teaching method in the future.

Keywords: Team-teaching, Turkish teaching, social science education, interdisciplinary study

INTRODUCTION

Team-teaching is a method in which two or more teachers jointly teach a mixed group of students in a learning environment (Kamens, 2007). It is the unification of two different teachers in the same class to meet individual needs (Murawski & Dieker, 2008). It can be also defined as any academic experience in which two academics work together to design and teach a course in which group learning techniques are used (Robinson & Schaible, 1995). It is an educational environment in which two or more people share responsibilities of teaching in a classroom environment (Villa et al., 2008).

Team teaching has been carried out in the secondary schools in the United States and the UK since the 1960s (Barth, 1990). Open platforms in which teachers share their teaching plans have been widely used since the 1970s (Esterby-Smith & Olive, 1984). Areas of using team teaching are generally defined in the field of special education in the literature. However, there are quite different applications in interdisciplinary fields.

Why Team Teaching?

There are many reasons for applying team teaching in lessons to create better learning environment:

1. To increase teaching options for all students

2. To increase the intensity and continuity of programs

3. To meet the needs of students with special needs

4. To increase the support for service professionals who are responsible for teachers (Cook & Friend, 1995).

An academic achievement is ensured only when all of the groups involed in learning including students, teachers and mentors actively participate in the process. Thus, there are a few key questions to ask before starting team teaching (Cook &Friend, 1995).

1. Is the content of the general education program appropriate for the student?

2. Will the student need further support to benefit from the general education program?

3. Is the classroom environment appropriate for the study?

4. Do other students in the classroom need this study?

Benefits of Team Teaching

When conducted effectively with the above-mentioned aims in mind, the benefits of team-teaching can be seen in many respects such as:

1. Affects personal development (increase self-confidence and self-efficacy)

2. Affects professional development (planning, asking questions, collaborative working, thinking skills, classroom management).

3. Affects thinking skills (Beaten &Simons, 2014)

4. It has been supported by researches that through team teaching pre-service teachers observe each other's mistakes and they are more comfortable than other experienced teachers (Stairs et all, 2009).

5. Teachers develop timing and some other personal skills (Vaughn, et al., 1997).

Teaching Environment

By creating interactive, collaborative and differentiated learning environments, students often say that it is easier to learn and participate in learning. Thus, this helps to understand the course materials and content. These kinds of environments also facilitate the formation of constructivist type of classes in which teachers model how to construct new information through interaction, collaboration and discussion. In team teaching, learning environment varies according to the personality of the student and thanks to the learning environment; students discover their own knowledge (Carpenter, et al., 2007).

Planning

In team teaching, planning is a process that should be considered not only as lesson planning but also as the planning of the whole study/task, and a serious time needs to be devoted for it.

It is important to prepare the common topics, learning outcomes and course process in accordance with the expectations of programs, teachers and students. It is important that pre/in-service teachers have advanced skills in managing time.

Study Groups

Study groups in team teaching are usually small groups. Special attention is paid to ensure that these groups are heterogeneous. When choosing groups it is also important that members are able to cooperate, open to innovation and change. The aim of choosing smaller groups is to provide additional opportunities for each group member to answer questions, and to monitor their answers by teacher/mentor. As a result of some studies it is suggested that the groups frequently change. During team teaching, generally one teacher makes a presentation in the classroom while the other waits behind the class or sits on teacher's desk for other activity.

Considerations:

1. In team teaching volunteering is important

2. Each trainee/group member should spend time with his / her partner.

3. Some students may have behavioral problems.

4. Study groups understand the importance of trying something.

5. If groups are composed of pre-service teachers or student-teachers, it is important to ensure that they see themselves as a real teacher.

6. How will groups determine when they meet, especially they are new to team-teaching?

7. It is important to read new methods before starting.

8. What should the other teacher do when one teacher is leading?

9. It is important to check non-verbal signals in classroom observation.

10. What can you do to ensure that the lesson is not boring?

11. Course should be evaluated by students.

Purpose of the Study

The aim of this study is to organize Turkish and Social Study Teacher candidates' ability to use team teaching methods and techniques. Thus, we aim to see the effects of team-teaching as an interdisciplinary method, on creating a richer learning environment and meeting individual learning needs more effectively.

For this purpose, the following questions were sought to be answered:

- What do teacher candidates think about the effect of team teaching method on teaching-learning process?
- How does team teaching effect teacher candidates' proffessional development?
- How does team teaching effect teacher candidates' personal development?

METHOD

This research was designed in an action research model to learn the effect of teamteaching on personal and professional development in the teams in an interdisciplinary area. In this study action was planned as interdisciplinary team teaching implementations. Thus, this research was designed in the action research model in accordance with the purpose of applying the theoretical knowledge of prospective teachers into practice (Stringer, 2008). Mentors helped them to solve their problems about their professional or personal development. In the pre-study, we, as mentors tried to determine the problems by using some forms. In the process, evaluation meetings were done and reflection dairies also were used to help them to discuss and solve these problems. At the end of the process some other forms were used to understand the development of teacher candidates.

For 6 weeks, the study group represented a common topic in Social studies and Turkish following the interdisciplinary model. They taught in two tours. In the first tour, researchers (mentors) did not intervene, but in the second tour; they intervened in the process to help them solve problems and shortcomings observed in the first tour, and to perform better.
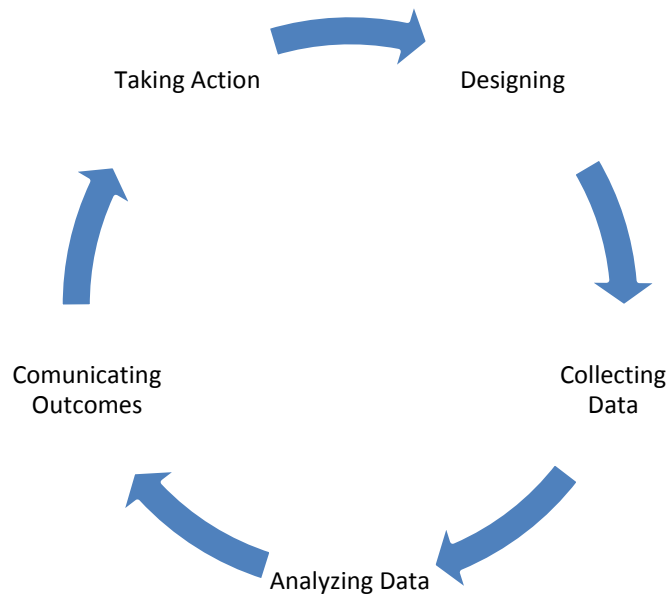
Taking Action → Designing → Collecting Data → Analyzing Data → Comunicating Outcomes → Taking Action

Figure 1: Action Research Cycle (Stringer, 2008:78).

Study Group

Firstly, 9 volunteer Turkish and Social Studies teacher candidates were identified. Secondly, 3 teams were formed to follow the changes in team members of groups and ensure that members with different learning profiles were in the same team.

"Rathus Assertiveness Schedule" was used to identify team members' personal traits and performance. According to the results of the schedule, 2 social studies teacher candidates were eliminated and 3 teams were formed with 7 participants (4 females-3 males) The results of the schedule are as follows:

Table 1. Rathus Assertiveness Schedule

Department	Code	Score	Grade
Turkish	B2	154	Assertiveness
Social Studies	C1	148	Assertiveness
Social Studies	A1	131	Assertiveness
Social Studies	B1	121	Intermediate
Turkish	C2	121	Intermediate
Turkish	A2	112	Intermediate
Turkish	C3	108	Intermediate

According to Rathus Assertiveness Schedule, 30-80 points are described as shy, 80-130 are at intermediate degrees, and 130-180 are described as assertive (Rathus, 1978). As can be seen on Table 1, there was no shy teacher candidate in the study group. 2 social studies teacher candidates were identified as assertive and 1 social studies teacher at the intermediate level. 3 of the prospective Turkish Language teachers were identified at moderate degree and 1 of them was at an assertiveness degree. Accordingly, the match of the teams members was as follows:

Table 2. The Teams

Department	Names of Team	Code
Social Studies –Turkish	Team A	A1-A2
Social Studies –Turkish	Team B	B1- B2
Social Studies –Turkish-Turkish	Team C	C1-C2-C3

During matching, firstly, the scoring and then gender distribution were taken into consideration to have one female and one male member in each team. Accordingly, social studies candidate who had the highest point and Turkish teacher candidate with lowest point were in the same team. In the next matching, the candidate who has the second highest score was matched with the candidate who had the lowest score. In this way, it was aimed to understand whether they would affect each other in terms of performance. The teams were named as A, B and C, following the order of lecturing.

Data Collection Tools

Interview Forms

Before the implementation, an interview form was developed to get the views of the teams. It was named as pre-interview form because it conducted before the implementation of team teaching process.

Observation Forms

In this study, an observation form was developed by the researchers to see the effect of team teaching on the professional and personal development of prospective teachers. The dimensions of the observation form were divided into two parts as personal and professional development according to the purpose of the research. *Personal development* was scored in the categories of *communication, problem-solving, self-confidence and critical thinking.* In the Professional Development category, there are sub-categories of 'time management, asking questions, subject area knowledge, preparing and using course materials, assessment and evaluation, deciding on methods to be used, and developing appropriate activities. These observation forms were filled up by mentors and 3rd-year students in social studies teaching who served as students and made observations

during teamteaching by grading teams between 1-5 in the scale of the observation form. Thus, the teams had an opportunity to evaluate their performance from the eyes of others.

Reflection Diaries

The teams were asked to keep diaries to reflect on each lesson they had taught. Thus, researchers had an opportunity to collect data from the participants themselves about the effect of team teaching on teaching-learning process. Each diary was kept individually my team members. These reflection diaries were evaluated by the researchers and discussed with pariticpants at the end of each lesson.

Field Notes

During the lessons, field notes were taken by the researchers to be able to learn the effect of team teaching on students' learning and teaching processes. These notes were about data apart from the observation forms. It thought to crucial that a researcher makes an observation apart from the students in regard to improving perspective. The field notes were revealed to and discussed with the teams in evaluation meetings together with the reflection diaries.

Evaluation Meetings Notes

During the process, at the end of the first and second tour, evaluation meetings were held. These meetings were considered as important in terms of its contribution to the action research cycle.

Data Analysis

The purpose of the analysis is to see connections between the action and its effects. Also, all of the data were tried to it was tried to unitize through analysis. While making analysis, each of the teams' views and opinions about team teaching were focused on. The data were analyzed qualitatively. Anlaysis forms were varied according to the learning strategies of the study group and the agreed decision of the researchers as result of researchers' observations (Norton, 2009).

Descriptive Analysis

Field notes, reflective diary, and evaluation meeting notes were subjected to descriptive analysis. Patton (2014) states that an intensive description of qualitative analysis cannot be avoided and that this facilitates the analysis process in qualitative research. Personal experiences of each team members affect their views, thus the data collected in the process. Therefore, the descriptive analysis that was used in this study was regarded as important for us to know how team teaching would have an impact on prospective teachers in different disciplines and how learning occurs (learning from mentors and peer-learning). As a result of the analysis, the data were described intensely and categories were formed. The analyzed data were categorized and summed up in this way. In the analysis and presentation of the findings, it was necessary to use the data associated with

the themes in each data collection tools. A comparative approach held during analysis, helped to find similarities and differences between findings. In this way, loss of data, invalid or incorrect data editing were tried to be prevented.

Content Analysis

In the study, interview forms of listener and participants were subjected to content analysis, since it is easier for researchers to make comparisons between the gathered through descriptive and content analysis. Content analysis is systematic coding of qualitative or quantitative data according to research-specific themes (Cohen, Marihon & Manison, 2007). In this study, the data gathered through interview forms were coded by considering also the notes of researchers and they were categorized in accordance with codes. Patton (2004) argues that accurate data coding can expand and narrow areas of research. Thus, themes helped the researchers to frame the study. In the presentation of the data, a categorization was made based on the descriptive analysis.

Descriptive Statistics

The data gathered from observation forms were scored by category. In this way, it was aimed to understand changes in the teacher candidates in terms of professional and personal development. Since it was desirable to consolidate with descriptive statistics, SPSS program was used and percentage distributions were made to see the professional and personal development changes according to the determined variables. The distributions had been summarized via tables (Wiersma, 1985; Norton, 2009).

Validity and Reliability

Patton (2014) thinks that triangulation method should be used to increase the accuracy and objectivity of qualitative data analysis. He mentions four kinds of triangle: triangulation of method, triangulation of references, triangulation of analyser, and triangulation of hypothesis. This formula is based on the reproduction of methods, resources, analyzes, and theories. In this study, the triangulation of the method was used to ensure the validity of the data gathered through various data collection tools. The cognitive framework of the study helped to get an interpretive approach to have a model suitable for team teaching (Yıldırım & Şimşek, 2016). For this purpose, the literature was reviewed before doing analysis and the positive situations related to the concepts of team teaching and the negative situations caused by these concepts were evaluated. Merriam (2009) stated that a way to increase reliability in qualitative research is to check whether the results are consistent with the collected data. For the reliability of the study, codes were checked by different coders and the codes were reviewed again. It was found that the results were consistent, thus the reliability of the study was ensured.

Action Plan

Table 3. Interdisciplinary Team Teaching Action Plan

First Tour			
Date	**Teams**	**Topic**	**Duration**
08.04.2019	A1-A2	Turkish Epics	40'+ 40'
15.04.2019	B1-B2	Popular Culture	40'
22.04.2019	C1-C2-C3	Independence March	60'
24.04.2019: First Evaluation Meeting			
Second Tour			
29.04.2019	A1-A2	10th Anniversary of the Republic	40'+40'
06.05.2019	B1-B2	Environmental Pollution	25'+25'
13.05.2019	C1-C2-C3	Artificial Intelligence	40'+40'
17.05.2019: Final Evaluation Meeting			

According to the action plan, each team taught two courses. They decided on time planning and topic choices. Purposefully, the subjects were chosen to be the combination of the two disciplines. At the end of the tours, evaluation meetings were held. In this research, these meetings were called the first evaluation meeting and the final evaluation meeting.

Implementation Process

In this study, the implementation was carried out in two stages. In the first stage, the study group was informed about team teaching and the researchers wanted them to create lesson plans. The lesson plans, in this study, consisted of time allocation for each task/activity, common learning outcomes, skills, and values. Besides, interdisciplinary relationship was sought in terms of common values, skills, and learning outcomes.

After the lesson plans were checked by mentors, the teacher candidates taught the courses. In the first tour, there was no researchers' intervention in the process. At the end of lectures, mentors held meetings with teacher candidates to listen their impressions and views about team teaching.

At the end of the first tour, a focus group discussion was made for a general evaluation. It was aimed to understand that where they made mistakes, areas to be improved and at which stage of the process they exchanged opinions. At the end of the discussion, it was aimed to make up any deficiency of their lectures.

Structuring the research as the first tour and second tour required to change the action research cycle.
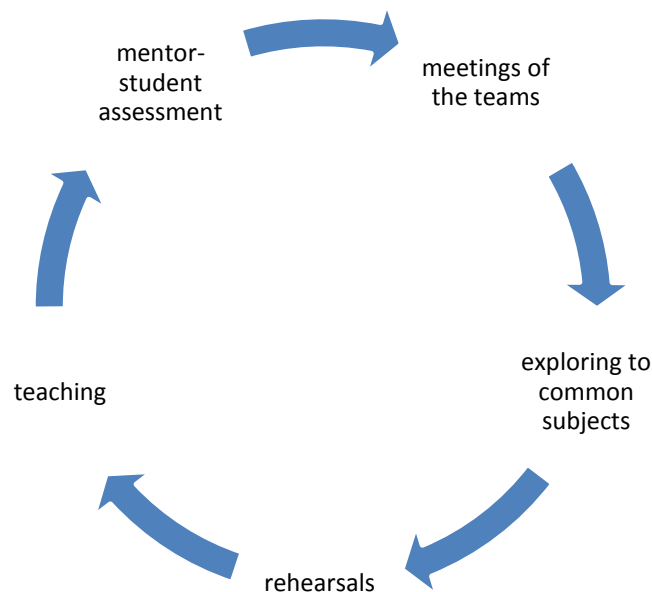
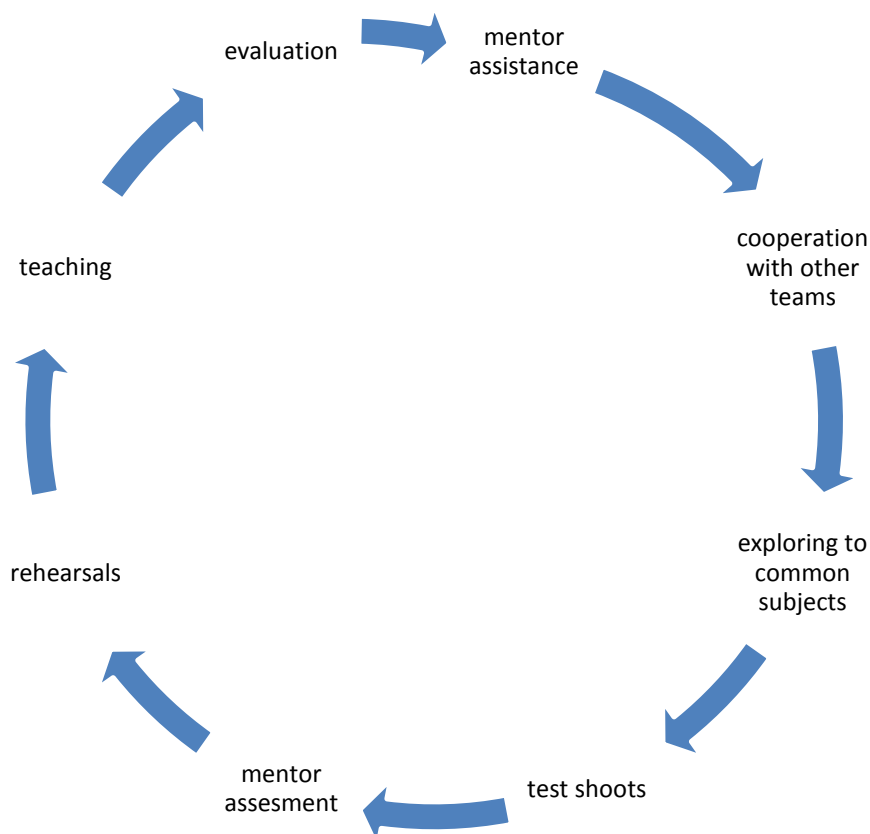**Figure 2**: The first tour of action research cycle

Figure 3: The second tour of action research cycle

Looking at the action research cycles, it was understood that the candidates had time for improving themselves in the second cycle. In the second tour, however, the teams had an opportunity to identify common issues,

first through mentor assistance and then in collaboration with the other teams. In order to be prepared better for the lesson, they rehearsed the course after the trial shoot which did not occur in the first cycle. In the trial shoot, a mock course was done, filmed and delivered to the mentors. After the trial shoot, mentor evaluation was made and the course was rehearsed. In rehearsals, method, time planning, and activities were evaluated and there was no mentor intervention during rehearsals.

FINDINGS

In this research, the data were presented in accordance with the sub-objectives. In other words, it was presented in way to reflect teacher candidates' opinions about teamteaching before the study, and what difficulties were encountered during the study, and what they thought about team teaching at the end of the study, and how it was contributed to their professional and personal development. The study was evaluated in two tours, in the second tour there was the researchers' intervention. Thus, changes were expected to occur and to observe it, the data before and after the intervention were compared. In this section, excerpts from sentences related to the themes that emerged as a result of the analysis were given in accordance with the action research.

Pre and Post Study Evaluation

In this section, the findings gathered through the analysis of pre-interview forms were presented. Content analysis was not based on individual questions but on common themes. The content analysis revealed two main themes: team teaching skills and the application of a new method.
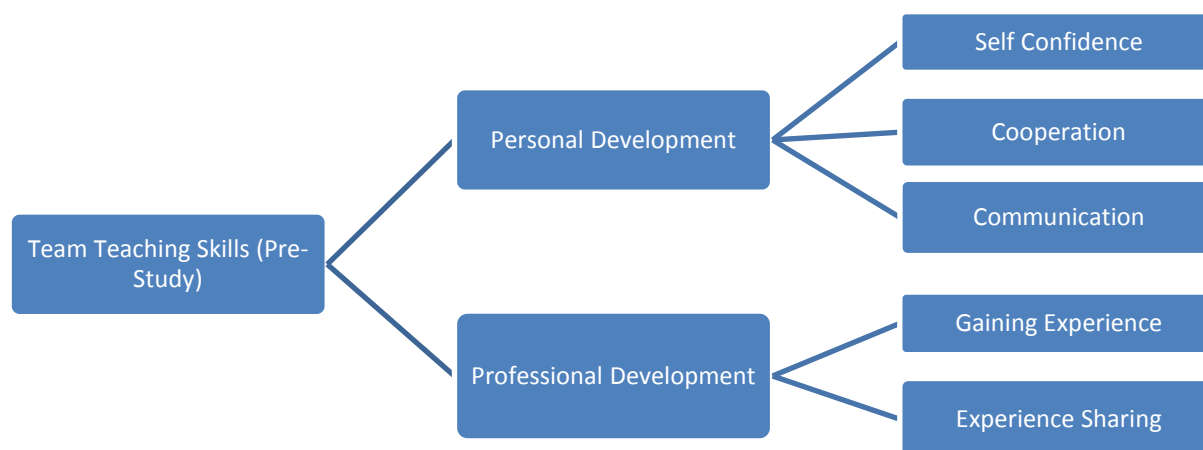

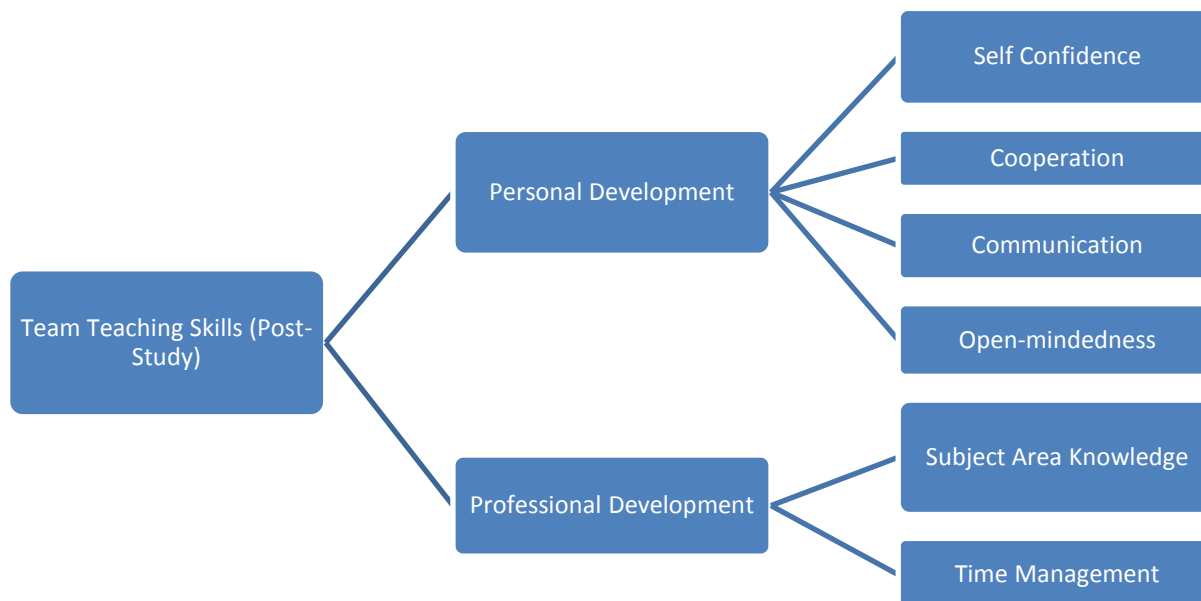**Figure 4.** Pre-Post Study Evaluation

Figure 5: Team Teaching Skills in the Pre and Post Study

As shown on Figure 4, team teaching skills were categorized as personal and professional development. In the category of Personal Development, cooperation and self-confidence, communication; open-mindedness was added to this in the final interview form.The codes of subject area knowledge and time management emerged in the last interview forms. It was coded as cooperation in this study that the teacher candidates thought that team teaching helped them to regulate the communication between them:

> *I think that this method will develop my negotiation skills, liaising skill, and team study, and ensure that developing strategy and coordination skills, can improve themselves when the partners benefit from each other's knowledge and experience.* (C3).

Similar expressions were used at the end of the study:

> *"I think ı have improved the ability of cooperation" (A1).*

> *"I can say that I learned to work as a team. I've done group work before, but they were more like combining data. Here we were together in the whole process and we planned and did everything together" (C3).*

In the pre-study process, the expressions that reflect the participants' view that they could express themselves through team teaching were coded as self-confidence:

…it will enable both our expert teachers and students to broaden their view of life, to think broadly and also to increase our self-confidence (B2).

The teams stated team teaching contributed them at the end of the study. In the post-study process, they stated that their speaking skills were developed:

"*While I was having a hard time speaking in public, give a lesson in such a study helped me to overcome this fear. I have also improved my ability to express my opinion clearly*" (C2).

"*... I have also improved my ability to speak in public*" (C1).

"*There was an increase in my self-confidence. Because I started this study with people I didn't know and I was excited about, but over time my self-confidence increased more*" (A2).

The fact that the groups adopt team teaching as a new method, willing to use it and present their opinions in this way were coded as open-mindedness:

"*The 21st century is a changing, transforming and constantly developing era. As teachers of the future, we must equip our students with the skills and values appropriate for this age. We must learn and use new methods and techniques that are student-centered and appropriate for the age*"(A1).

"*Education should be open to new methods and techniques because I think that the more diverse the horizon of the students, the wider it will be*" (A2).

In the pre-study, the members of teams stated that they would learn to use time effectively; these kinds of expressions and opinions were coded as time management.

"*I think that teamwork will contribute to the professional development in terms of being an experienced teacher and using the time effectively*" (C1).

In the post study, teacher candidates stated more detailed opnions on the code of 'time management':

"*This study also contributed to the points that we will pay attention while making lesson plans and learning outcomes, and I think we can understand more as long as promoting to the next grade*" (C3).

"*Before the second tour while making lesson plan we understood the purpose of the study and controlled our excitement and because of this, we took into consideration duration of the lesson, activities, method and techniques, measurement tools, and their compatibility with the subject*" (C1).

In the code of 'subject area knowledge', expressions were observed related to the disciplines of the teams.

*"I noticed for the first time that I was studying in Turkish language area (A2).*

"While making lesson plans in the second tour, we paid attention to which part should be from Turkish or Social Studies course" (B1).

The sentences that the teacher candidates stated that they improved themselves were coded as gaining experience in the pre-study:

"I think it would be beneficial to teach teamwork because both students learn from at least two field experts and the teachers can recognize their weaknesses and strengths" (C1).

This code emerged in a similar way at the end of the study:

"Through this study I gained professional experience. but this method is little known in Turkey as a very effective method of team teaching, the course has helped me in my professional development" (A2).
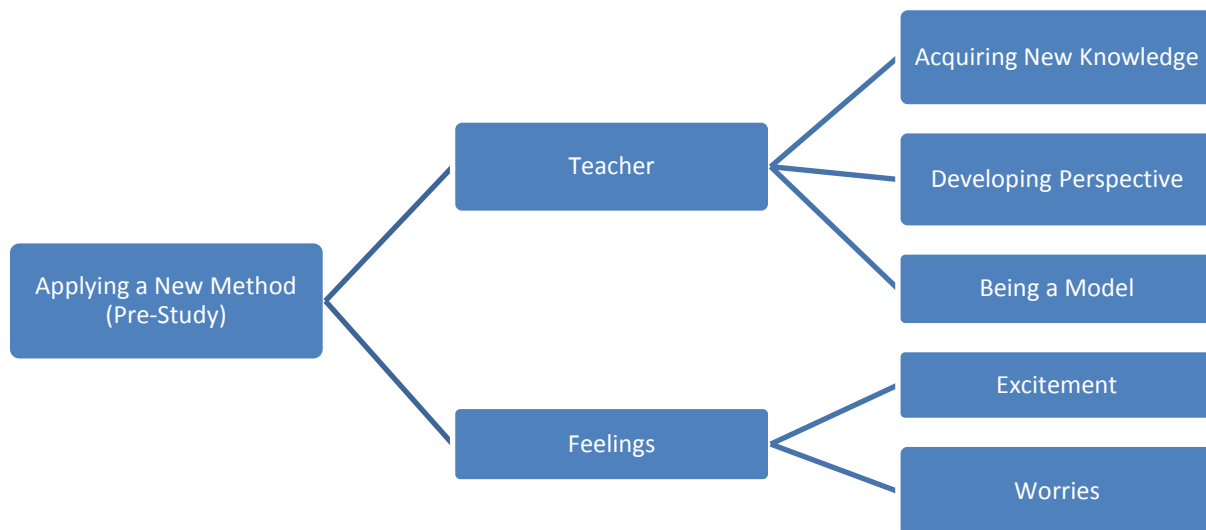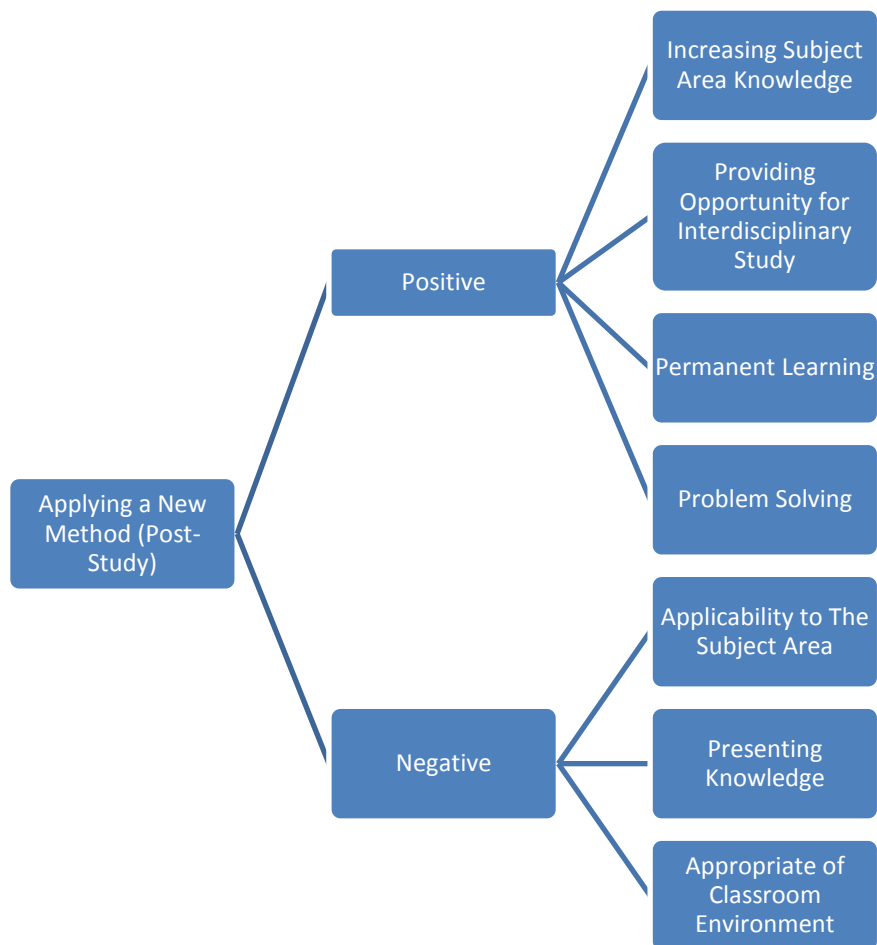
Figure 6: Applying a New Method in the Pre and Post Study

Different categories and codes emerged in the theme of applying a new method in the pre and post study. For example there are two categories, 'Teacher' and 'Feelings', were identified under the theme of 'applying a new method' in the pre-interview form. These codes were about the changes that will occur on teacher candidates who would use team teaching as a new method in their lessons, and these changes were determined as acquiring new knowledge, developing perspective and being a model.

Acquiring new knowledge code is associated with statements about teacher candidates' knowledge of the method:

> *First of all, we must understand the purpose and requirements of this method well. Since this is the first time we have come face to face with this method, I think we have to make sense. Teachers' adaptation to the method is already one of the advantages of learning* (C2).

The method was categorized as 'developing perspective code' through which they will learn to look at the field from a different perspective:

> *I believe that we can do good things by looking at the teaching from a different perspective and open our horizons and we can increase our gains by sharing* (C3).

All expressions stated about being role models through team teaching for other teacher candidates in teaching different disciplines were coded as 'being a model':

> *Students will learn teamwork by taking teachers as models. They will personally learn how to build solidarity and cooperation* (B1).

The emotions that the new method creates in teams were categorized as feelings. Teacher candidates of team teaching were excited about applying a new method:

> *This does not worry me, on the contrary, I felt the excitement of the idea of implementation* (C1).

The concerns of teams about applying a new and unknown method were coded as worries:

> *I'm stressed because I didn't know it before. People don't usually accept new things easily. The only brood I think is not being able to apply this method correctly* (A2).

Under the category which was called as positive, the statements of teacher candidates stating an increase their knowledge about their disciplines were coded as Increasing Subject Area Knowledge:

> *"As long as I learn my area I think to improve myself" (C2).*

As the study progressed, the teams' knowledge about their subject area and other related areas were increased, and this provided opportunity for interdisciplinary study. In this study, it was called as providing opportunity for interdisciplinary study code:

> *"I understood that how an interdisciplinary lecture can be effective in cooperation with the other teacher" (A1).*

> *"There was a problem with finding a common topic. However, as a result of long research, we found a common topic" (B1).*

The teams think that students acquire permanent information through this method and so it was called as parmenant learning code:

"Students can achieve more lasting learning with this practice"(B1).

All the problems that arise during the study and their solution process suggested that the teams improved their skills in this area. Statements related to this were coded as problem-solving:

"I learnt that many problems can occur during the process and how I can solve them" (A1).

"In case of any problems in the classroom, team teaching made it easier to solve them"(C2).

Besides, the groups stated the negative aspects of team teaching in the post study.

This category contains negative aspects of team teaching that constitute the codes as 'Applicability to the Subject Area'. The teams talked the difficultiy of applying team teaching method in every topic and to disciplines in a broad sense:

"The fact that it is not applicable in every topic is one of its biggest limitations (C1).

"By exposing the student to an intensive flow of information, it can both get studennts tired and confused"(C2).

"As a negative side of teaching together; it is difficult to find common areas to be described"(A1).

Their expressions that the teams stated that they thought they would be confused as the students would listen to the topics from different teachers were coded as Presentation of Knowledge

"Topics can be different. Sometimes, in this sense, one teacher is dominant and the other is passive" (B1).

"If a student is exposed to the expressions of two different teachers in teaching a topic, he may be confused"(C1).

The teams thought that team instruction could not be applied in all classes due to classroom conditions. These statements were coded as the Appropriate Classroom Environment:

"For these and similar methods, the problems of our classes must be solved. For example, I think that even if these methods are tried to be applied in public schools that do not have full integration to technology, I think they will not be successful"(C3).

"I think team teaching is a useful method. However, I think that it cannot be integrated into all courses in the education system in our country. Our classroom environment, lack of materials and different mentality of educators may cause this method not to be applied"(C1)

Process in First and Second Tour Team Teaching

In this section, the findings of the first and second tour team teaching were presented comparatively to explain the effect of the researchers' intervention: In this section, findings of field notes, evaluation meetings, and reflection diaries in the first and second tour team teaching. The theme, category and codes that emerged in the first round and second round of team teaching were shown below:
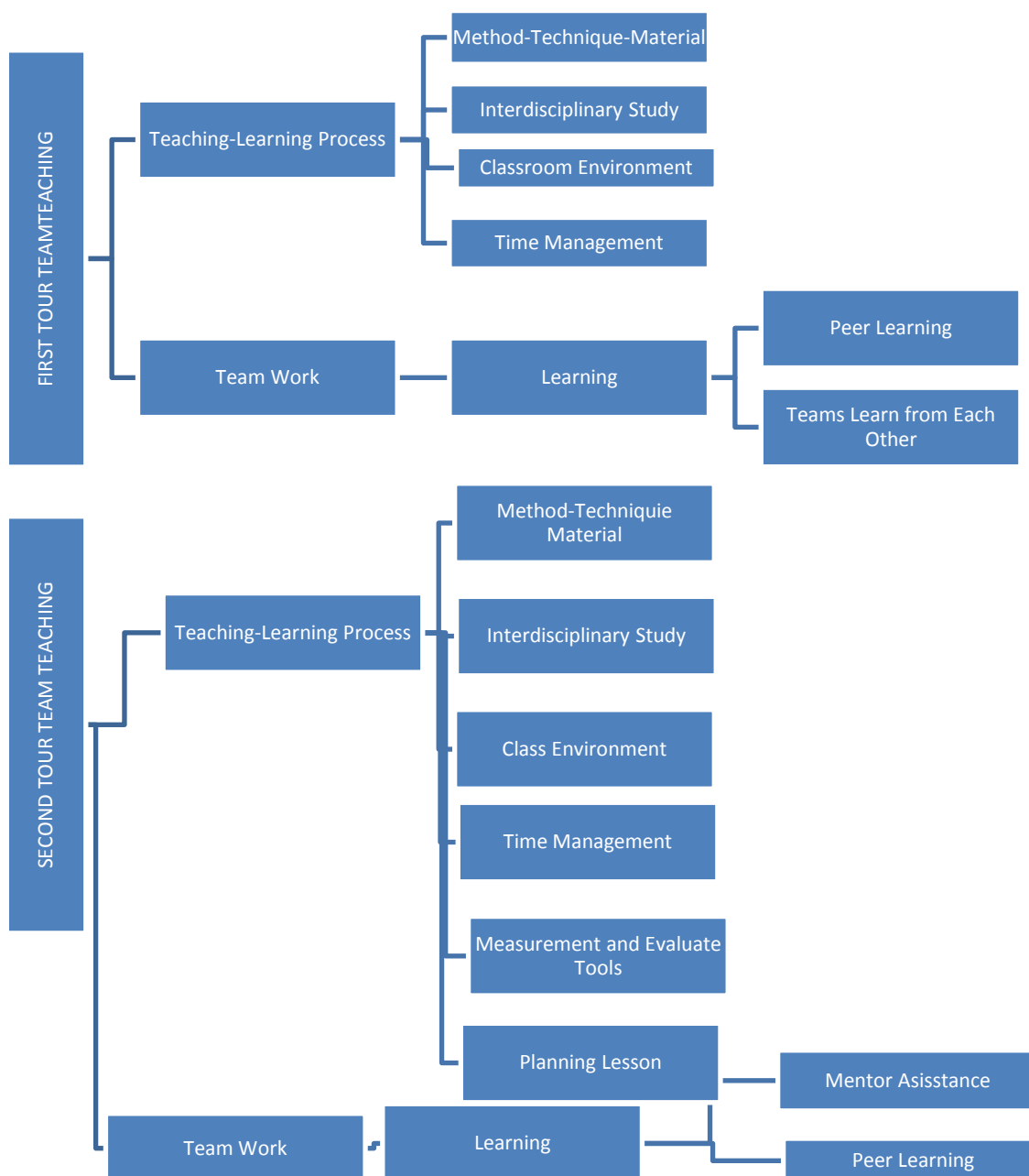

Figure 7: First and Second Tour Findings

In this section, the data gathered from the first evaluation meeting, reflective diaries, and field notes on team teaching during the first 3 weeks, in which there was no intervention.

Time management was a very difficult issue for group A in the first tour. Long period of the lesson than planned before disturbed some students. The field notes support this finding:

"The students had a very boring time because of the lecture" (08.04.2019 Field notes).

This finding was also revealed at the first evaluation meeting:

"I noticed that the topic was too long but I couldn't get it together. All the subjects were interlinked and I could not separate the subjects from each other. "(24.04.2019, first evaluation meeting - A1)

"The narrative was important to us. Because our main material was a poem. We needed time to use poetry effectively. Our main mistake was to use two poems. We focused too much and forgot the rest" (24.04.2019, First Evaluation Meeting-C3).

The teams criticized themselves and they said that they could not use time efficiently because they focus on the subject. Moreover, they observed that some students in the classroom were bored and that they would prepare a different lesson plan for the next lesson by taking this into consideration:

"I have a few topics in mind and this time I aim to prepare a more efficient lesson plan" *(24.04.2019, First Evaluation Meeting-B1).*

Teams were clearer and improved themselves about time management in the second tour:

"In the first lesson, we did not consider the time so much, but in the second I made planning about the time" (17.05.2019-Final Evaluation Meeting-A1).

"In the second tour, we were able to use time well. We knew what to do and when to do it. In the first tour, we had distributed the duties within the course, and in the second tour, I think we could communicate well even if we forget what we will say" (17.05.2019-Final Evaluation Meeting-C1).

Field notes revealed information about the lack of method-technique and material of teams in the first tour. According to members of the teams, they only focused on cooperative learning, and this caused them to forget students, and they focused on direct instruction techniques. They noticed that they did not use any material or a specific technic in the tour. This finding was also revealed at the first evaluation meeting:

"When team A was criticized for not cooperating, we focused more on the collaboration. Our topic was very good but we couldn't think of anything about other teaching methods" (24.04.2019, First Evaluation Meeting-B1).

Reflective diaries also show that the teams prefer team teaching in courses to determine the appropriate method:

"In this lesson, I liked the fact that all the team members make up the deficiencies that we had an exchange of ideas while switching between topics during the lecture (22.04.2019-C2).

"I liked that we passed the tasks. In this way, it is not monotonous and you can teach effectively" (22.04.2019-C3).

"During the lecture, I liked the way we passed duties with my teammate at the right time. It made me feel like we were a team"(15.04.2019-B1).

The teams used video as a material. Field notes show that teams think that they were not good at using material to support lesson:

"Videos and pictures are insufficient and they are very little relation to the topic"(15.04.2019-Field Notes).

"The idea of using play dough in this lesson was good but it did not support creative thinking" (08.04.2019-Field Notes).

In the second tour of lectures, the teams were more aware of the methods, techniques, and materials used and they made comments about them:

"... I think the methods and techniques we use are working.

Because both methods and techniques were student-centered, they helped the students to discuss among themselves, to make group work and develop cooperation" (29.04.2019-A1).

"… I think the techniques and methods we used worked. Because I think they are compatible with the subject of our course. the methods and techniques worked both in terms of increasing class participation and in terms of expressing ourselves better" (13/05/2019-C1).

> *"... We used different materials in the course. For example, the bingo game was adaptable to all verbal and numerical courses. I think it attracts students' interest and provides an intriguing introduction to the course" (13.05.2019-C2).*

This data was supported by the final evaluation meeting:

> *"We used more active learning methods, we divided the students into groups and used them as teams." (17.05.2019-Final Evaluation Meeting C1)*

The teams stated that a way of increasing interaction among students is competition or creating rivalry between them in the class, and they reconciled about creating a problem sentence at the beginning of the lesson.

In the second tour lectures, findings related to the situations in their classes were included:

> *"Although our questions were more like than the previous lesson and they were very tired, they participated more" (13.05.2019-C1).*

> *"There was a big difference in the studensts participation. I think the more interesting the topic and we were more confident, and we conducted lessons effectively" (13.05.2019_C3).*

> *"While the previous lesson was based on direct instruction technique, this lesson was completely on learner-centered instruction and activities. As another difference from the previous lesson, we used physical materials. This helped to provide interest in the class"(13.05.2019-C2).*

> *"We made more effort in the second lesson to make the class active" (Last 17.05.2019-Evaluation Meeting-A2)*

Self-criticism was also included:

> *"If I had gone back to the beginning of this study, I would have made things that make the class more active" (First Evaluation Meeting - C3).*

Considering the field notes and the first evaluation meeting, the teams stated that they had difficulty in deciding on a common topic that would fit in an interdisciplinary lesson. In the last meeting, they started to produce ideas about common topics in the interdisciplinary area:

> *"In the next lesson, can we combine Atatürk's 10th Year Speech with the common areas of the two disciplines? (First Evaluation Meeting-A1).*

"I have more than one idea on the subject" (First Evaluation Meeting-A2).

It was presented in the findings that teacher candidates were able to use the relation between Turkish and Social Studies regarding the teaching methods:

"When we look at the topic of our lesson, although it seems that it cannot be brought together in a common denominator in the fields of Turkish and Social Studies, we have solved this problem by planning an activity discussion (13.05.2019-C2).

"I think the method can encompass both areas" (06.05.2019-B1).

"I decided on Turkish course objectives, and we tried to make up for the deficiencies of the first tour. We did a lesson plan much better (29.04.2019-A2).

The teams thought also the methods of assessment and evaluation were suitable for interdisciplinary study:

"I think our assessment tool was suitable for both disciplines and it was practicable in both" (13.05.2019-C3).

This finding was supported by data gathered from the final evaluation meeting*:*

"In the second tour, we tried to balance both of the disciplines" (17.05.2019-Final Evaluation Meeting - A1).

"Actually, almost every topic can be used as a common one" (17.05.2019-Final Evaluation Meeting -C1).

"In the first and second lesson, I think we were balanced in the choice of the topic" (17.05.2019-Final Evaluation Meeting-B2).

"We tried to make up our deficiency about the vocabulary in the first tour. We looked for the ways to combine different disciplines in a lesson (Final Evaluation Meeting- C3).

The teams stated their increased awarenesses about using appropriate assessment and evaluation tools in the second tour:

"The assessment tool we used was an application called Plickers, I think it is an effective one. Because it both made the lesson enjoyable and enhanced students' interest by integrating technology into lesson. We understood from their feedback that students was surprised and liked the lesson (13.05.2019-C1).

"I think that our technique was proper in terms of improving classroom communication and making students active" (06.05.2019-B1).

"We provided material and assessment at the same time. Thanks to the game we prepared, we tested whether students learnt the words they did not know in Turkish and they had fun (29.04.2019-B2).

The teams stated the importance of using assessment and evaluation tools to improve classroom communication and to reinforce study in an interdisciplinary field.

In the second tour, findings for the things that teacher candidates paid attention when making a lesson plan were gathered:

"While doing lesson plan, I made use of the lesson observation form. Through this form, I understood the things that we should pay attention. Looking at the first lesson plan, I analyzed what we do well and bad. I then researched different methods and techniques and shared them with my teammate" (29.04.2019-A1).

"While doing lesson plan, I paid attention to the items that I should consider in the form. I created a lesson plan by considering the material that would be used to make students active. I also examined my previous deficiencies (06.05.2019-B1).

"While doing lesson plan, I made use of the textbooks and the curriculum (06.05.2019-B2).

"I am interested in the topic of 'space' and my teammates were also interested in this topic and science and technology is a common topic in both disciplines" (17.05.2019-Final Evaluation Meeting- C1).

As can be seen, unlike the first tour, in the second tour, students' interest and the nature of the courses were taken into consideration while making lesson plans. Besides, in the second tour, they made lesson plans in different ways and this helped them to explore interdisciplinary topics. Using different methods, techniques and materials helped them to work in an effective and interdisciplinary way, and to recognize common topics.

In this study, the findings about team members' learning from each other were also obtained. For example, according to the reflection diaries data, in the first group's teaching, the members helped each other in terms of classroom management, teaching methods and technique:

"I think I am good at cooperation and team working. I think we were teaching more like a mentoring system than teamwork. unintended to dominate may have negatively affected teamwork" (08.04.2019-A1)."

His teammate confirmed this mentoring system:

"My teammate was successful in classroom management. When I got excited, he guided me. He was very helpful in preparing a lesson plan and in preparing me for the lesson as well as providing me resources"(08.04.2019-A2).

The code of 'peer learning', in the second tour emerged as 'supporting eachother, recommending, criticizing and teaching'

"My team-mate is perfectly compatible. He helped me a lot and told me what I don't know. Thanks to him, I had more information on many topics" (29.04.2019-A2).

"We worked in harmony as a team from the first day" (13.05.2019-C3).

"I think communication and productivity increase as we get to know each other" (06.05.2019-B2).

"We worked in full harmony with my teammates both in the first lesson and before and during the lesson. We observed eachother's missing aspects and mistakes and made recommendations to eachother. We supported eachother with both of my teammates" (13.05.2019-C2).

"We spent a good time together and there was not a problem with communication" (17.05.2019-Final Evaluation Meeting C3).

"Mentoring system has emerged (17.05.2019-Final Evaluation Meeting - B2).

"I felt more comfortable about cooperating in the latter" (17.05.2019-Final Evaluation Meeting A1)

This was supported by field notes:

"During the study, learning occured because the teams got support from eachother (17.05.2019-Field Notes).

Another issue about peer learning was the follow-up of the performance of other team members during the team teaching

"While my teammates were teaching, I tried to follow their dialogues. On the other hand, I prepared the materials. While my teammates were teaching, when there was something that I want to add, I added it after it finished"(13.05.2019-C2).

"I provided in-class management (silence, order, etc.) (06.05.2019-B2)

Individual learning emerged as learning from teammates and other teams:

"Can we get help from our other teammates?"(C1)

"Of course (Mentor, First Evaluation Meeting 25.04.2019)."

The teams evaluated other teams in terms of their good or bad performance on teaching, thus learnt from eachother:

"Team B's effectiveness at the end of the course could have been a bit better. There was no participation and the students spoke among themselves"(First Evaluation Meeting, 25.04.2019-A1).

This was revealed by the data of the first evaluation meeting:

"We tried to be more careful about the things that the previous group did not pay attention to and that we found unsuccessful in their teaching" (First Evaluation Meeting - 25.04.2019 B1).

"There was a problem with teamwork in the first group, and the second group did much better than. We also wanted to pay attention to team teaching" (First Evaluation Meeting - 25.04.2019 C2)

The groups' perceptions about what to do in the first tour about combining both disciplines were quite low. This low awareness interfered with them both in terms of choosing method-technique and material and to have a balance for two disciplines at the same time. In summary, the first tour of teamteaching was important for the groups to realize what they should pay attention to in an interdisciplinary work. So, in the second tour, they found opportunity to implement what they learnt from the first tour.

It is thought that mentor assistance would provide a benefit for finding common topics in the two disciplines. As a result, the cycle of action research had also changed (see at: figure 2 and 3).

In the second tour, the statements of teacher candidates about the support of mentor to teams in terms of learning process were as follow:

"Our mentors helped us about doing lesson plans in the second tour, they advised us about activities and teaching better. All of them were contributed to our process of study" (29.04.2019-A1).

"Unlike the first tour, in the second tour, a final review of the lesson plan before teaching, helped us to create our lesson plan better. We noticed our deficiencies or faults, and thanks to our mentors we were able to make up and teach much better (13.05.2019-C2).

"There were differences between the first and the second tour. I think we took more solid steps with the guidance of our mentors (06.05.2019-B2).

"During this evaluation process, the question marks in my head disappeared. Thanks to our mentors' suggestions, questions they asked and the points they raised, the problem of not knowing what to do in the first tour was eliminated. In general, speaking more often than the first tour, both my belief in myself increased and new ideas came to mind" *(13.05.2019-C1).*

Evaluation of Observation Forms

In this section, the evaluation of the observation forms created by the joint evaluation of mentors and listeners for the teams was presented. Graphs were created for each team and the results of the change of team teaching between the first and second tours before and after the mentor intervention were presented.
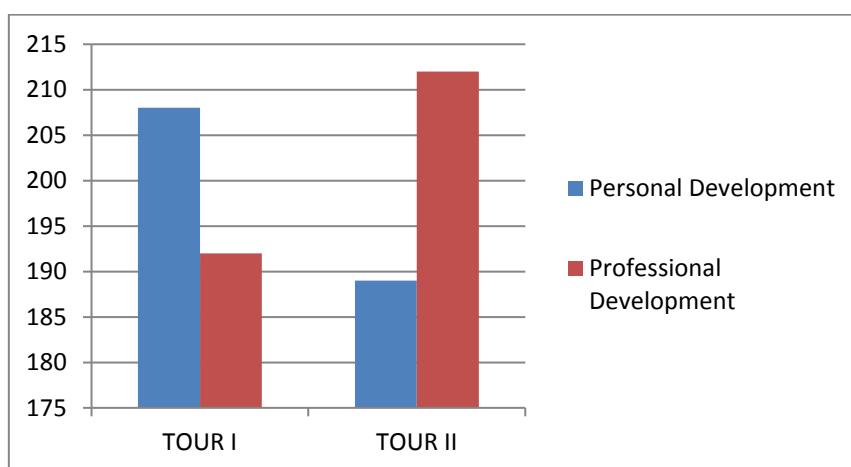

Figure 8: Group A Observation Form Results

According to Figure 7, there was an increase of 110 points in Group A's Personal Development scores after mentor intervention. There is an increase of 50 points in Professional Development scores. In this case, it can be said that there is a less increase in Professional Development scores of Group A.
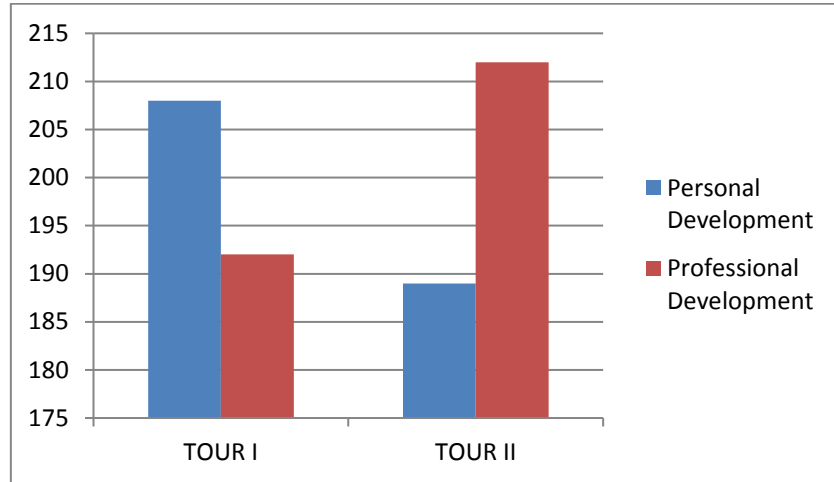
Figure 9: Group B Observation Form Results

According to Figure 8, Personal Development scores of Group B increased by 100 points (about 2 times) in observation scales, while Professional Development scores increased by 50 points.
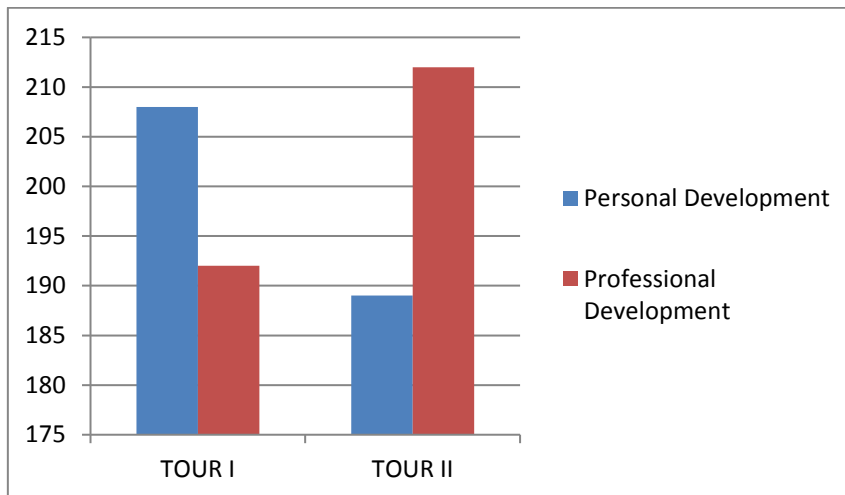

Figure 10: Group C Observation Form Results

According to Figure 9, there was a decrease of 15 points in Personal Development scores of Group C Observation Form results after mentor intervention; instead, there was an increase of 20 points in Professional Development scores. Accordingly, Group C showed a change only in terms of Professional Development.

When the observation forms were evaluated in general, the biggest change occurred after the mentor intervention in Group B. The group with the least changes in their scores is Group C.

CONCLUSION AND DISCUSSION

As result of the study, that was conducted to make research about Turkish and Social Study Teacher candidates' ability to use team teaching methods and techniques following conclusions were reached at:

- The teams thought that team teaching have increased their personal and professional development.

- At the end of the study, the groups agreed that team teaching cannot be used as a stand-alone method and should be used together with other teaching methods that activate students during lessons. Thus, they tried to integrate other teaching methods into team-teaching.

- The awareness of interdisciplinary work has been developed during team teaching. At the end of the study, the groups stated that as their communication increased, they noticed more interdisciplinary studying areas. This result was found important in terms of showing the effect of communication of groups on team teaching and vice versa.

- Inter-team and intra-team communication have also helped groups to recognize characteristics specific to their areas.

- In this study, while participants stated many advantages and positive views related to the use of team teaching methods were directed towards their own disciplinary areas and areas related to their education, codes identified as negative situations and disadvantages were less. It can be said that the teacher candidates' have positive opinions about using team teaching in their lessons when they become in-service teachers.

- Thanks to this study on team teaching, teams have developed themselves in the areas that help them to increase their professional growth.

- When the individual forms of the groups were taken into consideration, it was found that the A and B Group's Personal Development Scores were higher than the Professional Development Scores. Group C scores increased only in terms of professional development. In general, it was found that the most significant change occurred in group B and the least change was observed in group C. This may be due to the inventory results determined in group selection. This is because group B is consisted of students that one of them has the lowest score and the other has the highest score inventory results. In addition, since group C is a group consisting of three candidate teachers, it is thought that the groups are less likely to express their self-confidence individually. Accordingly, it can be said that the group members are more successful in displaying their professional performances.

Since educators are always behalf on supportive, collaborative and encouraging opportunities to create better learning environment, studies on teamwork based on collaborative and communicative processes have

attracted teacher education and development programs. However, out of these studies, Parks (2009) and Fendler (2006) claimed that collaboration hinders pre-service teachers' critical thinking abilities on some basic teaching procedures and excludes some candidate teachers. In contrast to these two studies, mostly it has been thought that team-teaching create better learning environment by fostering collaboration and bringing different ideas together. Dee (2012) conducted similar study with this study. Likewise in ours, in her study pre-service teacher candidates worked together with two cooperating academicians as mentors to discuss planning, teaching, and evaluating. The candidates in teams worked together to write units of instruction and each took responsibility to teach lessons in two tours. As results of her study, they found that within the classroom, candidates modelled collaboration for students while increasing their own skills of teamwork and communication. They also found that in teams, if a candidate needs extra coaching, the stronger one becomes role model and supports him/her in the areas that s/he needs to change/improve. In their study they paired the candidates without knowing them, so personality was not factor in the research, they recommended to do this kind of study by forming teams based on candidate choice and skill level. Accordingly, in our study we formed teams in terms of their personality traits based on a test to identify whether they are introvert or extrovert; self-confident or not etc. Therefore, we were able to form partners in which one of the students has advanced communicative skills whereas the other needs improvement in this area, or; one of them has higher self-confidence compared to other. As a consequence of this kind of team formation, the pre-service teachers in this study found opportunity to develop not only in terms professionally but also personally.

Team teaching often involves differentiation of instruction, learning activities and assessment process; team-teaching process carried out in this study was also like that. While the subject areas (Turkish and Social Studies) remained consistent throughout the study, multiple topics, insights and activities planned wisely gave opportunities to create learning environment more flexible, creative, richer and enjoyable, and that meet more individual needs due to multiple instructors and perspectives as other studies also noted (Carpenter, Crawford & Walden, 2007; Hughes & Murwaski, 2001; Jurena & Daniels, 1997; McKinley, 1996). Not only students but also the groups of team teaching found team-teaching as enjoyable, beneficial, and positive in many respects and contribute a lot to their professional and personal development. In this study, team members were chosen as with different personal and professional features, so both members in each team developed deeper understanding of the course content, learning/teaching process, activities and assessment. As students and mentors noted on their observation forms, these differences contributed a lot to classroom environment. Therefore, it can be said that personal and professional development gained through team-teaching supported by mentors are easy to realize, cost nearly nothing however in the long run has potential to obtain invaluable results. Team –teaching provides pre/in-service teachers to better meet the academic and behavioural expectations and diverse needs of students and programs and establish a differentiated and inclusive co – teaching environment. However, this kind of co-teaching requires commitment; a lot of time and effort from planning to assessment (Rice & Zigmond, 2000; Roth & Tobin, 2004) since embracing one side but not the other can prevent the full effectiveness of team-teaching, can cause communication problems and frustration between team members. When committed properly, team teaching enhances the pedagogical practice of pre-

service teachers and improves teacher quality (Shagrir, 2010; Branyon, 2008). Similarly, Stairs (2010) found as a result of their case study that pre-service teachers who were paired for clinical practice showed important professional development and Cozza (2010) asserts that collaboration and teamwork contribute to classroom environment and culture, so learning. Additionally, Birrell and Bullough (2005), studied ten elementary education students who were paired for a practicum. As a result of the study, they found that the use of this model of practice helped the pre-service teachers to appreciate the collaboration and learning from each other to create better learning environment; and contributed to their ability to collaborate with colleagues and their being well prepared for solo teaching.

In addition to these, some other studies were conducted to get perceptions of mentors and pre-service teachers on collaboration and to determine the effect of team teaching on pre/in-service teachers. They mostly resulted in observing the contribution of team teaching and collaboration to create better learning environment which fosters both teachers and students by meeting their different kinds of needs and interests. They found out through their studies that paired candidate teachers learned more from each other and their mentors than single ones (Baker and Milner, 2006; Carpenter, Crawford & Walden, 2007; Dee, 2012; Goodnough et al., 2009; Muraswski, 2005; Ploessl et al. 2010; Gardiner & Robinson, 2010). Moreover, some other researches were conducted to experience different kinds of collaboration models; to see the effects of team teaching in special education; to identify and experience some methods to develop the quality of teaching through collaboration by controlling some factors such as degree of collaboration and of intervention of mentors to the process (Martin, Snow & Franklin Torrez, 2011; Kamens, 2007; Wong & Glass, 2011). These studies' findings support using collaboration and they admit that pre-service teachers benefited from each other to develop professionally by communicating, reflecting and discussing on their teaching and through that process they gained comfort and confidence because of a peer with them to collaborate.

Interestingly, as a result of their review study on team teaching, Beaten and Simons (2014) reached at the conclusion that studies on team teaching are generally on conducting it without comparing it with a control group as our study, and they identified a need for more quasi-experimental researches to evaluate the effect of team teaching on students, student-teachers and mentors, especially on the learning process of student teachers (Carpenter et al., 2007; Dang, 2013; Gardiner & Robinson, 2009; Murawski & Swanson, 2001; Welch, Brownell & Sheridan, 1999). In this respect, Baeten and Simons (2016) conducted a quasi-experimental research to investigate students' experiences on two models of team-teaching; parallel and sequential teaching with the participation of 229 learners in secondary education. As a result of the research, both models were evaluated positively. For parallel team teaching they reported advantages as: high levels of support; different opinions, explanations; higher learning gains and variation and one disadvantage as being confusing. For sequential teaching, participants most frequently reported the advantage of high level of support because of having two teachers in the classroom as other studies also reported (e.g. Birrell and Bullough 2005; Dee 2012; Gardiner 2010; Kamens 2007). Another study that targeted at students' gains though team-teaching, was conducted by Walsh and Davis (2017) to raise student awareness on sustainability. Through team teaching,

they could link geology and sociology which is very important and need each other to fully understand the issue. They qualitatively assessed 18 students' learning by using their blog posts. As a result of the research they found that, through those lessons students were able to understand the complex nature of sustainability and consumption. Based on the positive outcomes that they got through team-teaching study, they recommended the use of similar interdisciplinary collaborations.

Kodkanon and his colleagues (2018) conducted a study to identify 5 vocational teachers' experiences with interdisciplinary team teaching through interviews and observations. They found that interdisciplinary aspect may be achieved through engagement in project-based learning to support teachers' planning besides they found that team teaching provide opportunities to teach across disciplines; to develop supportive and sharing relationships and roles; communication and decision-making which overlap with the findings of this study. They also suggested the use of social media to support communication and collaboration in team members; accordingly, we used technology and found ways to communicate easily and online to share documents, feedback, reports etc. Thus, we recommend other researches to use fast online ways of communication, since this kind of study requires collaboration, communication and planning.

Buick (2016) conducted a review study on team teaching and their findings also overlap with our study in terms of the benefits of team teaching, such as collective responsibility, having a holistic view of learning, developing interpersonal skills, attentively engaging with issues of difference and approaching them with a variety of perspectives. Additionally, they explored the development of a deeper and complex curriculum and learning environment that provide opportunities for creativity, risk taking and interdisciplinary connections. Similar advantages were found by the study of Baeten and others (2018), conducted to investigate which assisting activities student teachers and mentors prefer. They found that team teaching model has advantages of professional and personal growth, motivating in self-directed way, developing differentiated learning environments, support for the student teachers, that overlap with our study and other studies; (Guise et al. 2017; Mandel & Eiserman, 2015; Millis, 2012; Murdock, Finneran, & Theve, 2015; Solis et al. 2012; Tomlinson, 2015). As we found in our study, they reported that since this kind of model is new, student teachers feel unfamiliarized in the beginning of the process , however though time, they feel comfortable since they feel the classroom climate more and this smoothes the transition from learning to teach in theory to practice to teach. Additionally, as our participants stated, they found that student teachers prefer to implement team teaching model in lessons in which students have to work in groups, as in the form of coaching or supporting them to produce something.

As conclusion, the findings of this study and other similar studies conducted show that team-teaching has many benefits to create better learning environment, improve teaching and better meet the needs of different profiles. However, to that end, we believe that further research, studies and practices into the implications and effects on learning environments and different models of team teaching are necessary.

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BİR DİSİPLİNLERARASI ÖĞRETİM YÖNTEMİ: TAKIM-ÖĞRETME

TÜRKÇE GENİŞ ÖZET

Çalışmanın Amacı

Bu araştırmanın amacı Türkçe ve Sosyal Bilgiler öğretmen adaylarının işbirliği içerisinde ekiple öğretim yöntem ve tekniğini kullanma yeterliliklerinin belirlenmesi ve düzenlemesidir.

Bu amaç doğrultusunda aşağıdaki sorulara yanıt aranmıştır:

1. Ekiple öğretim yönteminin öğretmen adaylarının kendi öğrenme ve öğretim süreçlerine etkileri nelerdir? Bu süreçler çalışma boyunca nasıl bir gelişim göstermiştir?

2. Ekiple öğretim takımların mesleki gelişimlerini ne yönde etkilemektedir?

3. Ekiple öğretim takımların kişisel gelişimlerini ne yönde etkilemektedir?

Çalışmanın Modeli

Bu araştırma eylem araştırması (action research) modelinde desenlenmiştir. Çalışma grubu 6 hafta boyunca Türkçe ve Sosyal Bilgiler derslerinin birleştiği ortak bir noktada belirledikleri bir ilköğretim kademesinde disiplinler arası ders anlatmışlar, ders sonundaki öz-değerlendirme ve akran değerlendirmesi ve mentor değerlendirme toplantıları yoluyla süreci değerlendirme fırsatı bulmuşlardır. Dersler ilk tur ve ikinci tur olarak gruplanmış, ilk turda araştırmacı müdahalesi olmazken, ikinci turdaki değerlendirme toplantısının sonunda mentorların müdahalesi bulunmaktadır. Bu müdahaleler ilk turdaki eksiklikler üzerine kurulmuştur.

Çalışma Grubu

Çalışma grubu belirlenirken öncelikle gönüllülük esası dikkate alınmış, takım öğretimi gruplarının gelişimini takip edebilmek ve farklı öğrenme gruplarının takımda bulunmasını sağlamak amacıyla üç takım olarak oluşturulmuştur. Takım üyeleri, 4 Türkçe öğretmenliği ve 3 Sosyal Bilgiler öğretmenliği adayları olmak üzere toplam 7 öğrencidir.

Veri Toplama Araçları

Görüşme Formları

Uygulamaya başlamadan önce takım öğretimi hakkındaki görüşlerini almak üzere bir ön görüşme formu oluşturulmuştur. Çalışmanın öğrenme-öğretme sürecine katkı sağlayıp sağlamadığını anlamak amacıyla bütün uygulamaların bitiminde de katılımcılara son görüşme formu uygulanmıştır.

Gözlem Formu

Bu çalışmada takım öğretiminin öğretmen adaylarının mesleki ve kişisel gelişimlerine etkisini görebilmek amacıyla araştırmacılar tarafından gözlem formu geliştirilmiştir. Gözlem formu boyutları araştırmanın amacına göre kişisel ve mesleki gelişim olarak ikiye ayrılmıştır. Kişisel gelişim *iletişim, problem çözme özgüven* ve *eleştirel düşünme* kategorilerinde puanlanmıştır. *Mesleki Gelişim* kategorisinde ise *zamanı planlama, soru sorma, alan bilgisi, ders materyali hazırlama ve uygulama, ölçme değerlendirme, yöntem belirleme, etkinlik oluşturma* alt kategorileri bulunmaktadır.

Yansıtıcı günlük

Dersler sırasında çalışmanın öğrenme-öğretme süreçlerine etkisi ile ilgili veri toplamak amacıyla takımlardan ders anlatımlarının sonunda bireysel olarak yansıtıcı günlükler tutmaları istenmiştir. Her bir günlük tüm grup üyeleri tarafından tutulmuştur. Bu günlükler araştırmacılar tarafından her haftanın sonunda değerlendirilmiştir.

Saha Notları

Dersler esnasında çalışmanın öğrenme-öğretme süreçlerini nasıl etkilediği ile ilgili veri toplamak amacıyla saha notları dersler boyunca araştırmacılar tarafından gözlem formu dışındaki verilerle ilgili olarak tutulmuştur.

Değerlendirme Toplantıları

Süreç içerisinde ilk ve son tur tamamlandığında olmak üzere iki kez değerlendirme toplantısı yapılmıştır. Bu toplantıların verileri eylem araştırmasının döngüsüne katkı sağladığından toplantılar önemli bulunmuştur**.**

Verilerin Analizi

Veriler nitel olarak, betimsel istatistik, betimsel analiz ve içerik analizi yöntemleri ile analiz edilmiştir.

Uygulama Süreci

Çalışmada uygulama iki aşamalı olarak gerçekleşmiştir. İlk aşamada çalışma grubuna takım öğretimi konusunda bilgi verilmiş ve ders planlarını oluşturmaları istenmiştir. Ders planlarında uygulama süresi, ortak kazanım, beceri ve değerler yer almaktadır. Ayrıca iki disiplinin birbirleriyle ilişkisi ortak değer, beceri ve kazanımları dikkate alınarak belirlenmiştir. Ders planları mentorlar tarafından kontrol edildikten sonra uygulamalar öğretmen adayları tarafından yapılmıştır. İlk turda izlenimleri görmek amacıyla araştırmacı müdahalesi olmamıştır. Ders anlatımlarının sonunda öğretmen adayları ve mentorlar arasında bir toplantı gerçekleşmiş ve dersle ilgili her birinin izleniminin dinlenmesi amaçlanmıştır.

İlk turun sonunda da genel bir değerlendirme için odak grup görüşmesi yapılmıştır. Bu görüşmenin amacı, ilk turda tüm adayların ders anlatımında nerelerde hata yaptıkları ya da hangi kısımlarla ilgili fikir alış verişi

yapılmıştır. Görüşmenin sonunda adayların ikinci tur için ders anlatımlarıyla ilgili eksikliklerinin giderilmesi hedeflenmiştir. Dolayısıyla bu çalışmada araştırmacı müdahalesi ikinci turda olmuştur.

Bulgular

Ön görüşme formlarına uygulanan içerik analizinde *takım öğretimi becerileri* ve *yeni bir yöntem uygulama* olmak üzere 2 ana tema ortaya çıkmıştır.   Takım öğretimi becerileri kişisel ve mesleki gelişimlerde kategorize edilmiştir. Kişisel Gelişim yönünden işbirliği ve özgüven, iletişim, bakış açısını geliştirmek; Mesleki Gelişim yönünden deneyim kazanma ve öğrenme-öğretme süreci, zaman yönetimi, yansıtıcı düşünme, deneyim paylaşımı olarak belirlenmiştir. Öğretmen adaylarının aralarındaki iletişimi düzenleyici birtakım bulguların ortaya konulduğunu düşünmesi bu çalışmada işbirliği olarak kodlanmıştır. Ön görüşme formunda yeni bir yöntem uygulama ile ilgili soruya verilen cevaplarda Öğretmen ve Duygular olmak üzere iki adet kategori bulunmuştur. Bu kategorilerden ilki yeni bir yöntem olarak takım öğretimini uygulayacak öğretmen adayları üzerinde meydana gelecek değişikliklerle ilgilidir. Bu değişikliklere dair kodlar ise; yeni bilgi edinme, bakış açısı geliştirme, model olma olarak belirlenmiştir.

Son görüşme formlarına uygulanan içerik analizinde, mesleki gelişim temasında, öğrenme öğretme süreci kategorisine yönelik *Alan Hâkimiyeti, Öğrenci Etkileşimini Sağlama, Zamanı Planlama;* Kişisel Gelişim temasında ise, Takım Üyelerinin Özellikleri kategorisinde *Özgüven, İşbirliği, İletişim, Takım Uyumu* ve *Yeni Fikirlere Açık Olma* olarak belirlenmiştir.

Sonuç

- Çalışma öncesinde elde edilen ön görüşme formlarında gruplar takım öğretiminin kişisel ve mesleki gelişimlerini arttıracağını düşünmüşler çalışma sonunda da bu beklentilerinin karşılandığını son görüşme formunda belirtmişlerdir.

- Gözlem formları grupların tek tek gelişimleri dikkate alındığında A ve B Grubunun Kişisel Gelişim Puanlarının Mesleki gelişim puanına göre daha fazla olduğu saptanmıştır. C Grubunun puanları ise yalnızca Mesleki gelişim açısından artmıştır. Genel olarak bakıldığında en fazla değişimin B grubunda en az değişimin C grubunda olduğu tespit edilmiştir. Bunun sebebi grup seçiminde belirlenen envanter sonuçlarıyla ilgili olabilir. Zira B grubu, kendi alanlarında envanterden en az puan alanla en fazla puan alan öğrencinin oluşturduğu bir gruptur. Ayrıca C grubu diğerlerinden farklı olarak üç kişilik bir grup oluşturduğundan grupların özgüvenlerini sergileme durumlarının daha az olduğu düşünülmüştür. Buna bağlı olarak grup üyelerinin mesleki performanslarını sergileme konusunda daha başarılı oldukları söylenebilir.

- Çalışma sonunda gruplar takım öğretiminin tek başına bir yöntem olarak kullanılamayacağı, öğrenciyi aktif kılan diğer öğretim yöntemleriyle birlikte kullanılması gerektiği konusunda hem fikir olmuşlardır.

- Disiplinler arası çalışma farkındalığı dersler esnasında, dolayısıyla uygulamaya geçildiği sırada oluşmuştur. Çalışma sonunda gruplar, iletişimleri arttıkça disiplinler arası çalışma alanlarını fark

ettiklerini belirtmişlerdir. Bu durum, grupların iletişiminin takım öğretiminde etkisini göstermesi açısından önemli bulunmuştur.

- İlk ve ikinci tur ders anlatımları arasında temaların değişiklik göstermesi çalışma sırasında mesleki ve kişisel gelişimlerinde olumlu yönde bir değişim oluştuğunun göstergesi olduğu sonucuna ulaşılmıştır.

- Gruplar, disiplinler arası konuların ortaklığını mentor müdahalesi ile fark edebilmişlerdir. Dolayısıyla bu çalışma disiplinler arası alandaki ortaklıkların fark edilmesine yardımcı olmuştur.

- İkinci turda gruplar yöntem-teknik ve materyal konusuna daha fazla önem vermişlerdir. Bu durum takım öğretiminin grupların mesleki gelişimlerini olumlu anlamda etkilediğini göstermektedir. Mesleki gelişim verilerinin gözlem form sonuçlarıyla da uyumlu olduğu söylenebilir.

- Bu çalışmada takım öğretimi yönteminin kullanılması ile ilgili olumlu durumlar kendi disiplin alanlarına ve eğitimleri ile ilgili alanlara yönelik iken, olumsuz durumlar nitelenen alt kategoriler daha azdır. Bu durum, öğretmen adaylarının takım öğretimini ileride derslerinde kullanmaya yönelik düşüncelerinin olumlu olduğu anlamına gelmektedir denilebilir.

Anahtar Kelimeler: Takım öğretme, Türkçe öğretimi, sosyal bilgiler eğitimi, disiplinlerarası çalışma