

# The Application of the Dynamic Teacher Professional Development Through Experimental Action Research\*

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## Abstract

In this study, it is aimed to provide professional development of teachers by improving their classroom teaching based on dynamic professional development approach. The research was conducted as experimental action research. In the first step of the action research, interview technique was used to determine the opinions of teachers and school administrators about the teachers' professional development problems. In the second step, data were collected from the students who volunteered in the school where the action research will be carried out to determine the professional development levels of teachers. In the third step, teachers were given feedback about the answers. In the fourth step, teachers prepared action plans by reflecting on feedback. In the fifth step, the teachers were taught to teach according to the action plans they prepared. In the last step, in order to determine whether the plans are effective, the procedures in the first step were repeated and the professional development levels of teachers were re-determined, and the final results were compared with the first results. As a result of the research, it was determined that the teachers' professional development could be provided when they implement the action plans that they prepare by reflecting on the student evaluations. It was determined that teachers faced obstacles in their professional development and existing professional development activities were carried out with unplanned and mere information transfer without considering the needs of teachers. It is suggested that teachers should be provided according to the needs of their professional development, to make use of the observations of the students in order to determine the needs and to plan the development activities to respond to the teachers' practices in the classroom and to solve the teacher's problems.

**Keywords:** Professional Development, In-Service Training, Reflective Thinking, Action Research

## Introduction

There are rapid changes in every area. The changes in the economy, transportation, communication, politics, health, and social fields force people to adapt to them. The way to adapt to change is through education. Education is seen as a process of adapting one to the existing order (Akin & Arslan, 2014). As the current order is constantly changing, there are changes in the field of education as in other fields.

Education cannot remain indifferent to the changes of people. Especially the rapid changes after 1965 have created differences between X, Y and Z generations which were born in consecutive periods which lasted 15-20 years. Education has been reshaped according to these differences and has taken new approaches such as lifelong learning, distance education, and constructivist learning. The role of the teacher as the practitioner of these approaches has also changed.

It is suggested that the teachers in the Turkish Education System do not have sufficient qualifications and therefore the students do not get a qualified education (Abazaoglu & Taşar, 2016). Turkey, in international tests such as PISA and TIMSS, is located in the last row (OECD, 2016; Polat et al., 2016). It is suggested that qualified teachers are needed to provide quality in education (Çelikten, Şanal, & Yeni, 2005). Because the quality education provided by the teacher significantly affects the success of the students (Kyriakides, Campbell, & Gagatsis, 2000; Muijs & Reynolds, 2000). There is a significant relationship between student learning and country development (Cingi & Güran, 2003; Çalışkan, Karabacak & Meçik, 2013). For these reasons, it is considered necessary to increase the qualifications of teachers (Bümen et al., 2012;

MoNE, 2016). This may be through professional development activities (Katz, İnan, Tyson, Dixon, & Kang, 2017; Seferoğlu, 2004; Yetim & Göktaş, 2004).

Teacher professional development with the dynamic approach focuses on the teacher behaviors that affect student learning. It is essential that teachers develop action plans by reflecting on their practice. It is necessary to meet the personal development needs of teachers. Because teachers may be in different stages of development. The approach has eight factors that are effective at the classroom level. These are orientation, structuring, questioning, teaching modeling, application, the classroom as a learning environment, management of time and assessment (See appendix for more detailed explanation) (Creemers, Kyriakides, & Antoniou, 2013).

School administrators play a vital role in the professional development of teachers (Glanz & Neville 1997; Hallinger & Heck 1996; Sheppard, 1996). The creation of a professional learning culture for teachers was listed among the duties of administrators (Fullan, 2006). Administrators should develop the appropriate school culture to develop teachers' knowledge and skills (Elmore, 2000) and support teachers' professional development (Usdan, 2000). In this respect, the role of administrators is to align organizational features with professional development (Clement & Vandenberghe, 2001). Teachers should consider their administrators as professional development experts, and the necessary support, information, and resources should be expected from them (Payne & Wolson, 2000). However, school administrators cannot support teachers' professional development with their guidance (Çalık & Şehitoğlu, 2006; Ekinci, 2010). Because the concrete steps and training are not given to them. The dynamic ap-

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proach can provide concrete steps and tools that administrators can implement. These steps and tools can be introduced to them by short-term training. Thus, the barriers to the contribution of school administrators to teacher professional development can be removed. Therefore, there is a need to determine that the classroom teaching of teachers can be improved with the dynamic professional development approach.

#### *Purpose*

In this study, it is aimed to improve the classroom teaching of teachers based on the dynamic professional development approach. For this purpose, the following questions were asked during the research:

1. What are the opinions of teachers and school administrators about the problems of professional development of teachers?
2. How do the students evaluate their teachers' professional development levels?
3. Can teachers' in-class teaching be improved with the dynamic professional development approach?

#### *Significance*

In this study, it can be contributed to the success of the students by determining that the classroom teaching of teachers can be improved with the dynamic professional development approach. This is because the dynamic approach focuses on teacher behavior with proven effectiveness. An increase in the quality of classroom teaching behaviors of teachers may also increase student achievement.

Professionally developed teachers can contribute to the development of the country by improving the learning of the students. Because the success of students and the development of the country has been positively correlated. Countries that are successful in international examinations such as PISA and TIMSS are generally developed countries.

The dynamic approach can contribute to pre-service teacher education with its theoretical background. The increase in the quality achieved through the implementation of the approach can provide an understanding of the importance of the role of teacher behavior in student achievement. During the training of teachers, the factors determined by the dynamic approach can be provided and the quality of teachers can be improved.

In-service teacher training can be improved through the implementation of the dynamic approach. The approach is to determine the professional development needs of teachers and to ensure their professional development according to the determined needs. The content can be arranged according to the needs determined in the in-service training which are a part of professional development. Therefore, in-service training oriented toward needs may be more useful for teachers.

The dynamic approach may make it easier for school administrators to guide teacher professional development. The approach provides concrete steps and tools that administrators can implement. Thanks to the training, school administrators can use these steps and use the tools. Thus, the barriers to the contribution of school administrators to teacher professional development can be removed.

This research can contribute to research on teacher professional development. Researches that should be aimed at improving teacher professional development cannot go beyond identifying problems in professional development.

This research can be an example in terms of demonstrating that teacher professional development can be achieved through the dynamic approach. The results of the research can be confirmed by new research.

#### **Method**

This study is action research. The frequent use of action research in the professional development of teachers and the contribution of action research to the practitioners rather than the theory were effective in the selection of this method. Action research is a research design conducted by educators to solve the problems encountered in a school. The most distinctive aspect of this study is that it can be carried out by the problem solvers (Greenwood & Levin, 2007). When an external researcher participates, he/she takes the role of facilitator for defining and solving the problem (Marshall & Rossmann, 2006). Although it is considered as qualitative research design, it can also include quantitative data collection and analysis. The reason for being considered as a qualitative research design is that it works with small groups in a school or classroom. Those in the group define the problem, act to solve the problem, evaluate how effective the action is, and repeat these steps if the problem is not solved (O'Brien, 2001). Action research is close to learning by doing through this aspect (O'Brien, 2001). Action research enables teachers to collect convincing data and authorize them to implement the results (Gay, Mills & Airasian, 2012). The main purpose of the action research is the improvement of educational practices (Köklü, 2001), and it is frequently used to ensure the professional development of teachers (Cohen, Manion & Morrison, 2007; Norton, 2009). In many countries, teachers are supported to conduct action research (Ekiz, 2009).

This study can be considered as action research, for it includes the teachers who encounter problems and solve their problems by employing action plans. Conventional educational research generally gathers data on related problem then offers actions to solve the problem and leave the problem unsolved. Instead, this study actually solves the professional development problems of teachers.

Action research can be done by teachers alone or with the help of other teachers, students, and academics (Yıldırım & Şimşek, 2008). Techniques such as interviews, observations, experiments, case studies, and surveys can be used in action research (Köklü, 2001). The aspect of action research that differs from other research is that the researcher himself uses the data collection tools which he has developed himself (Fraenkel, Wallen & Hyun, 2012). Teachers who are directly involved in the research are stated to apply the developed action plan without any resistance (Aksoy, 2003). Teachers were found to have a direct and measurable increase in student achievement when they were involved in action research (Reeves, 2008).

The research was conducted as experimental action research. The experimental action research follows in the footsteps of Popper (1945), who argued that all social research should be conducted as experiments. Kurt Lewin, who is considered to be the founder of the action research, also designed action research in the form of social experiments (Trist, 1976). Lewin's research was mostly in the form of quasi-experimental and field experiments (Adelman, 1993). Some studies in the literature also include the phrase 'action research experiment' (Burgoyne, 1973). There have also been some people who have stated that action research is actually quasi-experimental research (Krishnaswamy, Sivakumar & Mathirajan, 2009). Therefore, it can be said that there is an experiment in the center of action research (Clark, 1976). However, the aim of using the experimental method in action research is not to reveal cause and effect relations as in purely experimental research, but to deter-

mine actions that lead to positive change (Gray, 2004). The basis of this is the reflection theory, which includes testing the hypotheses about the action of Schön. The action research carried out for this purpose reveals the experimental process with the conscious reflections made to learn the actions that lead to positive change (Friedman & Rogers, 2008).

The steps proposed by Fraser (2007) were followed to ensure teacher professional development. What the researcher has done in the framework of these steps is explained below:

1. Determination of teachers' professional development problems: In the first step of the action research, interview technique was used to determine the opinions of teachers and school administrators about the problems of teachers' professional development.
2. Gathering data for the identification of the professional development levels of teachers: In this step, the teacher Professional Development Student Assessment Scale has been applied to the students who volunteered. The researcher completed the observation form of the researcher by observing the teacher's lesson.
3. Providing feedback to teachers about the answers: The data obtained with the forms were analyzed within a day or two. One-to-one and face-to-face interviews were held with the teachers at a time appropriate to their schedule. The researcher introduced the individual action plan draft to each teacher and explained the dynamic approach factors to the teachers. After the teachers understood the factors, the results of the analysis of the data obtained in the first step were shared with the teachers.
4. Reflective thinking on feedback: Teachers were asked to express their views on the results. The researcher discussed the results with the teachers based on their observations and the opinions of the teachers. The researcher introduced the reflective thinking steps (evaluation, reflection, solution) to the teachers and told the teachers how the action plan should be prepared according to these steps. Teachers were asked to prepare their action plans, but the teachers stated that they wanted to prepare the plans when they were alone. Teachers were given a few days of their time, and they were given an appointment to discuss them again at a suitable time. When they were re-interviewed, it was checked by the researcher whether the teachers completed their action plans in accordance with the reflective thinking steps. It is explained to the teachers how they should behave in the next process.

5. Intervention to improve the professional development levels of teachers: Teachers are given a two-week period to teach their lessons according to the action plans they prepare.

6. Re-determination of the professional development levels of teachers to determine whether the intervention is effective: The procedures in the first step were repeated after two weeks. However, the students were asked to evaluate their teachers in the last two weeks. In addition, students who are not in the first step of the class are not allowed to evaluate.

**Setting**

The research was carried out in a middle school in the city center of Artvin in the Black Sea Region of Turkey. The reason why this school is preferred is that the level of professional development of teachers in the school is not sufficient during the development of the teacher professional development student assessment scale. The criteria to determine whether the level of professional development of teachers is sufficient or not were the five-point Likert ranges (1:1.00 – 1.79, 2:1.80 – 2.59, 3:2.60 – 3.39, 4:3.40 – 4.19, 5:4.20 – 5.00). Therefore, the schools in which teachers were below the highest range were considered insufficient. The school is a middle school located in a busy location of the city center, with sufficient physical conditions, and mostly from the middle and middle-lower socioeconomic levels of the children of families. The school has 30 classrooms, 52 teachers, 682 students, science lab, computer class, a conference room, and a library. Class sizes range from 18 to 27. The action research was conducted in the 5E, 6B and 7E classes in the 2016-2017 academic year. The classes were selected randomly as the basis that they are from different grades.

*Participants*

In this section, information about the teachers, students, administrators, and researcher is presented.

*Teachers, students, and administrators*

In order to answer the first question of the study, teachers and administrators working in high schools and middle schools in Artvin city center were selected according to the purposeful sampling method. According to the maximum diversity technique, the teachers had as many different branches as possible. In these schools, 16 teachers and school administrators working in the 2015-2016 academic year took part. The types of the schools where the interviews were conducted, and number of participants are presented in Table 1.

Two of the schools are middle schools, one is science high school and the other two are Anatolian high schools. A total of 1508 students were studying, 108 teachers and 18 administrators were working in the schools. The interviews were conducted with 11 teachers and 5 administrators. Table 2 shows the features of the participants.

**Table 1.** *The schools and the participants*

School Type	Students	Teachers	Teachers Interviewed	Administrators	Administrators Interviewed
Middle School	124	8	1	2	1
Middle School	300	23	3	2	1
Science High School	340	26	4	4	2
Anatolian High School	385	26	1	4	1
Anatolian High School	359	25	2	4	0
Total	1508	108	11	18	5

**Table 2.** Features of the participants

	Duty	Gender	School Type	Total Seniority	Administration Seniority	Branch
1	Teacher	Female	Middle School	8	0	Mathematics
2	Teacher	Female	Anatolian High School	3	0	Foreign Language
3	Teacher	Female	Middle School	16	0	Guidance
4	Teacher	Female	Middle School	5	0	Foreign Language
5	Teacher	Female	Anatolian High School	6	0	Mathematics
6	Teacher	Female	Middle School	4	0	Turkish
7	Teacher	Female	Anatolian High School	5	0	IT
8	Teacher	Female	Science High School	5	0	IT
9	Teacher	Female	Science High School	4	0	Foreign Language
10	Teacher	Male	Science High School	2	0	Biology
11	Teacher	Male	Science High School	4	0	Guidance
12	Principal Asst.	Male	Science High School	5	2	Physics
13	Principal	Male	Middle School	10	4	Classroom
14	Principal	Male	Middle School	10	2	Sports
15	Principal	Male	Anatolian High School	21	11	History
16	Principal	Male	Science High School	20	13	Literature

5 of the participants were school heads and 11 were teachers. 7 of the participants were male and 9 were female. Six of the participants worked in middle school, 4 in Anatolian high schools and 6 in science high schools.

In the action research, it is necessary to work with different participants to reach different data sources and to diversify data (Phillips & Carr, 2014). For this reason, teachers, students, and the researcher were among the participants. Since the researcher had experience in teaching science and technology, the aim of the research was discussed with six science and technology teachers working in the middle school where the research was conducted. Three teachers who wanted to participate voluntarily at this stage were among the participants of the study (Table 3). It is important that participants voluntarily participate because of the nature of action research based on cooperation (Somekh, 2006). The reason for working with a small number of teachers is to raise the concern of solving problems in a narrow context instead of generalization (Fraenkel, Wallen, & Hyun, 2012).

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Three of the classes taught by the volunteer teachers were selected randomly by the researcher and students studying in these classes participated in the study. Classes are selected from different grade levels (such as 5, 6, 7).

**Table 3.** Characteristics of participants of the action research

	Code Name	Gender	Grade	Classroom Population	Seniority
1	Ayla	Female	5	20	10
2	Fahriye	Female	6	18	22
3	Zeliha	Female	7	21	19

*Researcher*

It is important that teachers cooperate with academicians (Korkmaz, Şahin, & Yeşil, 2011; Newman, 1994). For this purpose, it is not possible for the researcher who participates in the action research to collect data in a short period of time. The researcher must experience the same environment with the participants, become partners in the problems and become an internal stakeholder of the school. Therefore, it is important to explain the experiences, competencies and the role of the researcher.

The researcher involved in action research has a bachelor's in science teaching. He worked as a teacher in the Ministry of National Education for two years. During his postgraduate studies, the researcher has taken courses on research methods and scientific ethics. The researcher, who has taken part in various research which is designed with quantitative, qualitative and mixed methods, has a special interest in teacher professional development and intensifies his studies in this field. The researcher, who conducted qualitative and quantitative research in the middle school where the research was conducted, had the opportunity to recognize the physical and social environment, culture and employees of the school. The researcher, who observes the teacher candidates in the teaching practice classes, has guided them in effective teaching.

The main roles undertaken by the researcher in the action research process can be summarized as the observation of the teachers' lessons and the evaluation of the students about their teachers. In addition to these roles, the role of the researcher in explaining the school and classroom environment, motivating and directing the teachers and informing the administrators about the research process at regular intervals. In addition, the researcher undertook roles such as storing the data obtained, hiding the names and special information of the participants and obtaining permissions for the research.



### *Data Collection Tools*

In this sub-section, information about interview forms, teacher professional development student assessment scale and researcher observation form are included.

#### *Interview forms*

Semi-structured interview forms were created by the researcher to answer the first research question. The form was finalized by the evaluation of five experts in the field of educational administration. The interview forms include 9 open-ended questions for teachers and 7 open-ended questions for school administrators. These questions are presented in the results section.

#### *Teacher professional development student assessment scale*

The aim of the scale is to determine the perceptions of middle school and high school students about the teaching activities in the classroom. It was developed by Bayrak and Bozkuş (2016). During its development, data were collected from 832 students who are 340 males and 492 females from grades 5 to 12 in Artvin province. Teacher professional development student assessment scale is a data collection tool consisting of 27 items under 7 factors and can explain 62.90% of total variance. The items are scaled in five-degree Likert type. Cronbach alpha reliability coefficients of the factors ranged from 0.66 to 0.83. Factor loadings of the items vary between 0.47 and 0.82. The construct validity of the scale was confirmed by confirmatory factor analysis. The form measures the teaching-related characteristics that can determine the professional development level of the teachers from all branches.

#### *Researcher observation form*

The observation form developed by Creemers and Kyriakides (2012) was used to determine the professional development needs of teachers according to the researcher's opinion. The form allows teachers to observe classroom instruction according to the factors of the dynamic approach. The form allows the researcher to determine the qualifications that the students cannot distinguish. There are 55 items in the form. These were answered by the researcher in their original English form.

#### *Data Collection*

For all stages of the study, permissions were obtained from Artvin Provincial Directorate of National Education. Semi-structured interviews were conducted in order to get the opinions of teachers and school administrators. The deep and comprehensive data from the participants with semi-structured interviews could be collected without adhering to specific patterns (Seidman, 2013). Semi-structured interviews are extremely useful in revealing details about a case (Esterberg, 2002). When the participants simply express their views about the case, the researcher can reveal the details of the opinions by asking them new questions. The interviews were recorded with a voice recorder, then typed on the computer and checked to the participants. The total duration of interviews with school administrators lasted 141 minutes and 42 seconds. The total duration of interviews with teachers is 174 minutes and 3 seconds.

The principle of volunteerism was observed in the application of forms to students. The administrators of the applied schools were informed about the research, explained the details of the research steps to them, and preliminary interviews were conducted in order to reveal the most appropriate time for the research. The students were guided by one-to-one guidance when filling the forms in their

classes. The researcher observed the teachers' lessons for 6 hours and answered the researcher observation form.

#### *Analysis of Data*

The length of the records of the interviews that were transferred to the computer was 42 pages. Inductive-based content analysis has led to extensive analysis units of meaningful analysis of important expressions and detailed explanations of what people experience. Similar explanations were put together to create themes. The means of the students' and the researcher's responses to items and factors were calculated. Dependent groups *t*-test was used to revealed statistically significant differences between first and last test means.

#### *Validity and Reliability*

In conducting the action research, the principles stated in the literature were taken into account for the validity and reliability (Merriam, 1998; Shenton, 2004). As in qualitative research, non-generalizable results for a particular context are obtained through action studies, and the measures taken for validity and reliability are similar to qualitative research. Therefore, it is considered important to ensure that credibility, transferability, trustworthiness, and verifiability are met in action research (Lincoln & Guba, 1985). Credibility is the response to internal validity in quantitative research. Collecting data from different sources, benefiting from different evaluators and having a long time in the research environment provide credibility (Lincoln & Guba, 1985). The researcher fulfilled the condition of providing credibility by collecting the data based on the student, the teacher, and his own observations, providing the evaluation of the data by different people and observing for many days in the classroom. The transferability, which is the external validity in the quantitative research, is to allow similar conclusions to be reached in studies conducted under similar conditions with a detailed explanation of what has been done (Lincoln & Guba, 1985). For this purpose, the researcher reported every step taken in the process in detail and made detailed descriptions of the environment of the school and the classes in which the research was conducted. The qualitative counterpart of reliability is trustworthiness and the fact that the data obtained due to the constant change of the context reflects the truth to be consistent with change (Lincoln & Guba, 1985). To achieve this, the researcher used reliable data collection tools and recorded the interviews with a voice recorder. Reflection of objectivity on qualitative research, when expressed as verifiability, means that the researcher has expressed his personal judgment that may affect objectivity and that the data collected from different sources validate each other (Lincoln & Guba, 1985). Therefore, the researcher compared whether the data based on students, teachers and their perceptions were consistent with each other. In order to ensure internal validity, the data were reviewed, and the breakdown of the interviews was read to the participants and the accuracy of the data was confirmed. The real names of the participants were kept secret and the code names were used.

#### **Results**

The findings obtained in this part of the research are presented in the sub-headings according to the order of collection of data and research questions.

##### *Findings Related to Professional Development Problems According to the Views of Teachers and Administrators*

The findings of the interviews with teachers and school administrators are presented under the themes.

1. Theme: Evaluation of current professional development activities according to the opinions of teachers and school administrators

Teachers and school administrators were asked the question: "How would you evaluate existing professional development activities?" The points that teachers and school administrators consider as a problem in their current professional development activities are presented in sub-themes.

1. Sub-theme: Mere information transformation. School administrators expressed that information transfer was frequently used in professional development ( $f= 2$ ). As a matter of fact, a school administrator thinks that those who conduct activities only transfer information and do not consider teachers. He suggests that teachers should be valued, not imposed and that their needs should be taken into consideration:

*"So, the person who came from the ministry, came from the university, to make a transfer to the teachers, should not be in this effort: I'm going to read the text, and I'm going to finish lessons. It must be a share because they are not students. He's a teacher. He makes himself a place. So, he thinks that he has just been there to learn to share at the same time. We must take these people into consideration teachers want a freer environment and wants to have a wider time. In particular, he expects his ideas to come to their attention in one place. That's when he starts making contributions. Or someone from above will say, the teacher must do it. The system works in this way" (Osman, Administrator).*

In the opinion of the administrator, since teachers are passive in professional development, it can be said that the activities do not affect the theoretical level and practice. It was also implied that the teachers thought that the activities were organized in order not to leave them empty instead of providing their professional development. Therefore, it can be argued that the main purpose in existing professional development is not development.

2. Sub-theme: Lack of application. School administrators stated that in professional development, activities should be done in a practical way ( $f= 2$ ). A school administrator stated that the training was not relevant because they were not practical and that the same subjects were mentioned in the training:

*"Not in the form of a person getting out and lecturing. Because they're not very effective for me. From what I can see, teachers are getting out of the conference right away. Some even sleep. There is a need for practice-oriented seminars, which are a little more interesting, appealing to the eye, directly in the work. By living in person, the teacher needs to be trained in that way. The same things are spoken. I'm not an old teacher, but as I've been following for 5 years, I've been coming back and talking about the same things. Some things are being solved, but I don't see much of what is said every year. It is a bit better for new teachers, but old teachers can pass on the same things every year" (Murat, Administrator).*

According to the statement of the administrator, keeping the teachers in a passive position in the activities and explaining the subjects that did not interest them reveals that the principles of adult education are not followed. This suggests that professional development is based on necessity rather than needs.

3. Sub-theme: Efficient activities. Teachers stated that their professional development activities were full of inefficient processes ( $f= 9$ ). For example, a teacher expressed his opinion as follows:

*"Absolutely useless. Because nothing is done. And now something happened; everyone's going to be in his home city, for example. Here I am from Trabzon. I went on a ride. I went to my previous school. We sat with my teachers, drank tea, drank coffee. That's it. There's nothing! There's nothing to tell. National Education has some issues identified. We need to develop our-*

*selves in those matters... I can clearly say; we ate cake, burrito, tea. So that's it. Nothing else was done. Formalities have been filled in, but the formality. Completely formalism!" (Sude, Teacher).*

It is understood from the opinions of teachers and administrators that professional development activities are done because they must be done. For this reason, activities are not organized according to teachers' development needs and teachers are not interested in activities. Moreover, it is worrisome that a teacher has not even performed an activity and that the time has been spent in conversation.

4. Sub-theme: Lack of planning. A school administrator complained about the lack of planning in the current practice and stated that the activities should be given by experts:

*"Is it useful? It's not useful when we look back. Maybe because it's not a very good plan. It is efficient if it is started with good planning. Not efficient. The Ministry is sending out general frameworks. School bureaucracy cannot be efficient in this respect, as the school administrations do not clarify the boundaries and do not clarify the issues. The reality of the work needs to be concretized in terms of a planning condition and issues. Three days this subject or 4 hours to be processed in this thread. And in the format of the seminar, people need to have some academic knowledge. In this sense, we think that cooperation with universities is a must." (Fatih, Administrator).*

It is understood from the opinion of the school administrator that the content of professional development activities is not clearly stated. This may be because teacher needs are not taken into account. In addition, it is a contradiction that the people who will tell about the activities are not experts. Because it is seen that teachers who need professional development are accepted as experts.

5. Sub-theme: Lack of effectiveness in distance education and professional development. The development of professional development activities through distance education was criticized by the administrators ( $f= 4$ ) and the teachers ( $f= 8$ ). A school head claimed that face-to-face communication needs of teachers were dominant, and thus distance education was ineffective:

*"Our Ministry has tried a period of distance education. The program came in last week. A large part of the service is distance learning. Distance learning is, of course, useful if they are sincere. Because there are specialized people. There is a little looseness in our education community and teachers in this regard. He will see the living person in front of him, maybe a little more effective. So, in distance education, the goal is good but the result doesn't match the goals or objectives" (Fatih, Administrator). It is understood from the interpretations of teachers and administrators that distance education applied in professional development is a one-way transfer and therefore does not include two-way communication. The necessity of bidirectional communication in education is expressed. It can be understood that distance education is done only by teleconference. However, there are methods and techniques that provide two-way communication which can make teachers active in distance education. One of these methods and techniques is to propose a teacher to discuss a sample lesson by referring to microteaching.*

6. Sub-theme: Non-consideration of professional development needs. One teacher stated that they were asked about their needs in preparing their professional development activities, but then their needs were not taken into consideration:

*"A survey is conducted at the end of the year. But they do it on their own. For example, at the end of the year, we had to criticize the books, for example, they want things. We say that in this book, these are ..... the words we have. But they never consider them" (Funda, Teacher).*

The training which can affect the teaching of teachers in the professional sense is named as the seminar. However, participation in these seminars is not according to need but according to seniority.

According to the teachers and the administrators, professional development is imposed as a right rather than need. The most important reason why the problems mentioned in the previous comments, the indifference of the teachers and, consequently, the inability of professional development to be effective, maybe the lack of consideration of teacher needs.

If the findings obtained in this theme are summarized, the needs of the teachers are not taken into consideration as the professional development is not seen as a need, and therefore the real purpose in the professional development is not development. As a result, it can be understood that professional development must be done and teachers' participation in professional development is seen as a right offered to them. It can be argued that the content of professional development activities is not clearly stated, the activities are carried out by non-experts and the lack of bidirectional communication of distance education applied in professional development is not compatible with the dynamic professional development approach.

*Theme 2: The barriers that teachers face when providing professional development*

Teachers are asked the question "What barriers do you encounter while providing your professional development?". The obstacles that teachers face while providing their professional development are presented in sub-themes. It was determined that the opinions about the obstacles that teachers encountered while providing their professional development were concentrated on personal barriers (f = 4), family obstacles (f = 2) and obstacles related to city facilities (f = 2).

**1. Sub-theme: Personal barriers.** A teacher because of the intensity of his life commented as:

*"But because I'm very busy at school this time, I can't follow because of the intensity. I've been following Primary Education Online magazine very often. I was reading new articles especially about my field" (Sude, Teacher).*

Some teachers also stated that they did not take time for professional development because of their personal indifference. For example, a teacher; I can't follow academic journals in the last year. It's obviously me. I'm not really getting along. I can spare time if I want" (Sevim, Teacher) has expressed their views. Another teacher; "I don't follow any education-related journal. But I wish. I do not follow the new books about the profession. I cannot say that I read a book about teaching specifically" (Buket, Teacher) stated that this issue remained indifferent.

One of the teachers explained that she did not attend the training because she was prejudiced against in-service training. "I don't think they're addressing me. I didn't go, but I don't think it's very efficient. Smartboard discusses. There's this one down here, that's it, okay. Since it is not efficient, I do not go to the in-service training" (Aslı, Teacher). It can be understood from the teachers' comments that they are not willing to participate in professional development and therefore produce excuses. Teachers' lack of willingness may be due to the problems mentioned in the previous theme. Because of these problems, professional development is not helpful to teachers, it may have prevented teachers from motivating to participate in professional development and provided them to behave in a prejudiced way.

**2. Sub-theme: Family obstacles.** Female teachers stated that they could not improve themselves due to their family obligations. For example, a female teacher; "I was able to keep up with the latest publications when I first started. But I cannot really follow up with the marriage of being a woman over time. To be honest" (Funda, Teacher) stated that the change in marital status was an obstacle.

Responsibilities of marriage and having children in Turkey are mostly undertaken by women. Therefore, female teachers have difficulty in allocating time for their professional development.

**3. Sub-theme: Obstacles related to city facilities.** Some teachers have expressed the limitations of their city. A teacher on this subject;

*"In order to improve my profession, for example, only if I were in a metropolitan city, I cannot develop myself in Artvin. There are symposiums of universities. Special courses are open, for example, there is a study about different activities and new topics. But we can't participate... I want to improve myself. But I cannot participate because the circumstances are not available" (Tuba, Teacher).*

A teacher explained that his effort to participate in a symposium in his field was prevented by the provincial national education directorate as follows:

*"I joined a symposium. But the National Education did not let me join. I had a symposium on children's literature with my wife, and we wrote a paper on it. They didn't let us directly. We could go through the health report. In this respect, I am complaining about National Education. They won't let me. Just because it's international, they're not allowed. If they were at a university level, they would've written. I mean, if it's national and if it's close. Ours was in Istanbul. That's why they didn't let me. They told me to get a health report directly. So, I got a report." (Funda, Teacher).*

Since it is difficult to get around in Artvin, teachers have difficulty in participating in professional development opportunities in the city. For this reason, the provincial national education directorate did not want to send the teacher to the event outside the city. However, the directorate should have been more understanding to overcome this obstacle. Moreover, the ministry has a legislative arrangement for the participation of teachers in extra-urban activities.

According to this theme, it can be said that teachers are not interested in professional development, female teachers are forced to participate in professional development and that the possibilities of the city where teachers work can hinder their professional development. But these barriers are not obstacles that cannot be overcome. Measures to overcome the obstacles in the title of the recommendations of the research are indicated.

**3. Theme: School administrators' efforts to support teachers' professional development**

The school administrators were asked the question "What are you doing to ensure the professional development of teachers?" The efforts of administrators to support teachers' professional development are presented in sub-themes.

**1. Sub-theme: Make an announcement.** School administrators stated that they could not go beyond the announcement of the existing training (f = 5). A school administrator stated that they have no other choice but to announce the existing training as they are not educated about teachers' professional development:

*"We, as I said, are making the announcements. There's that training down there. The training is not only in other provinces. There are courses offered by National Education. For example, there is an occupational safety course. Recently, all the teachers joined him. Then the seminars in the province, sometimes in schools in the form of in-service training. We are not specially trained managers, specially trained people. We are not going to say a certain lesson to the teacher in professional subjects. Courses in this field bring experts and open courses in the school. It opens in the Directorate of National Education. We're going to the halls. That way we are trying to help" (Murat, Administrator).*

The training, which the administrators describe as vocational development courses, are more like the courses offered by the public education centers within the scope of lifelong learning. It is understood from the statements that administrators did not receive training on teacher professional development. While the first administrator accepted this, according to the statement of the other administrator, it is seen that professional development is not fully known. Therefore, administrators cannot contribute to the professional development of teachers.

**2. Sub-theme: Sharing experience.** A school head stated that he could not go beyond sharing experiences with teachers and assisting them when necessary;

*"The teachers' board is an educational institution for everyone. There is very broad information is shared, experiences are spoken. The biggest contribution of the board is that we have friends from different schools. Our friends who want to come as much as they want from the school or school about the applications related to the subject, we take notes. This is an education, but as a more systematic education, we are constantly trying to send our friends to in-service training. From the Ministry of National Education, we demand that our teachers be systematically trained as much as possible. In fact, the ministry is not sufficient in this regard but has an effort and work" (Osman, Administrator).*

He stated that professional development activities for teachers consist of knowledge and experience sharing within the school and in-service training outside the school. In addition, the same school administrator said that they would not be able to go beyond assisting teachers and give teachers one-on-one training because they are in the same position as them.

It is important to share experience among teachers as the administrator states. Thus, the solution of problems related to practice can be learned from peers. However, professional development is a wider concept than sharing experience. According to the findings obtained from this theme, it can be said that school administrators did not receive training on professional development and could not go beyond teaching and sharing experiences with teachers. Therefore, it is very limited that administrators contribute to the professional development of teachers.

**4. Theme: Teachers' views on how professional development activities should be done**

The teachers were asked the question "How would you like the professional development activities to be done? The opinions of teachers about how professional development activities should be done are presented in sub-themes.

**1. Sub-theme: Must be application oriented.** A significant number of teachers (f = 8) stated that professional development activities should be practical. An example of a teacher's response to this situation is the following:

*"It needs to be practiced. Not in the style of a seminar, not like a course at a university, but at the university, we learned a lot about it, but it would be better if we were taught something different than what we saw at the university. For example, we*

*participated in things here, we attended seminars at the time we were interns. For example, the seminars there were not very useful. Because we have not been told anything other than what we know. The information was given theoretically but there was nothing based on practice. So, it was no different from the information we saw at the university" (Nurcan, Teacher).*

Teachers do not want to be passive in professional development. They do not find it useful only to transfer theoretical knowledge to themselves. Because the theoretical knowledge that they already know and have no value in practice may not arouse a desire to learn in teachers who are in practice. Unlike pre-service training, where theoretical knowledge is intense, practice-oriented training in service may attract more teachers' attention.

**2. Sub-theme: Should be directed toward problems.** A teacher has argued that professional development activities should be prepared according to the problems faced by teachers:

*"Everyone has a lot of problems in school, in a year, and it's time for everyone to sit through the problems and tell everyone the problem, and the opposite has to be well equipped so that I suggest you do that, I think we can start the next year better. So, I think the problem should go through. Take any subject. I may or may not meet him in a year. If the problems go through, if there is a very equipped person in front of me, I think it will be that way" (Aslı, Öğretmen).*

The emphasis of the education on the problem is consistent with the emphasis on approaching the practice and moving away from the theoretical and professional development in the previous sub-theme. Because emphasis on the teacher in the classroom needs information that works.

According to the views in this theme, it can be said that teachers think that the gap between theory and practice should be closed through professional development. In order to close this gap, reflective thinking can be used in professional development. With the reflective thinking technique used by the dynamic approach, solutions can be produced for the problems faced by the teachers in practice. Thus, professional development can be provided as stated by teachers in this theme.

**5. Theme: Teachers' views on what areas they need professional development**

The teachers were asked the question "In which areas do you need professional development? Findings of teachers' needs for professional development are presented in sub-themes.

**1. Sub-theme: Classroom management.** Some of the teachers (f= 3) found themselves inadequate in class management. For example, a teacher stated that she needs professional development in the field of classroom management: "In classroom management, of course, like every teacher. Because every method is clogged. Sometimes the child's world is different, even if you behave well. There may be a problem at home. You can't communicate (Buket, Teacher). Similarly, another teacher stated that she experienced problems in the field of classroom management: "I need it in terms of classroom management. The behavior of children in classes is changing day by day. In other words, 5-6 years ago, there are fewer problems in terms of classroom management" (Funda, Teacher).

The rapid change in the world reveals new generations every 5-10 years. As a result, the behaviors of students in the classroom vary from year to year. Teachers have to keep up with this change. The way to this is also through professional development. The dynamic approach that focuses on the teacher's classroom behavior can be a solution to this problem.



2. *Sub-theme: Measurement and evaluation.* A teacher needs support in the field of measurement and evaluation;

*"We are preparing the exam, yes, but we prepare with our information in KPSS [teacher selection exam]. For example, we saw a measurement course. In the exam, there should be a multiple-choice question and we should have an open-ended question. But I don't know if we can do that. But it would be great if there was any support in this regard. But there isn't" (Metin, Teacher).*

Metin states that new information has not been put on the pre-service information in the field of teacher measurement and evaluation. The importance of professional development is better understood here. Teachers may not be sure of the correctness of their practice when they do not have effective professional development.

In this theme, teachers stated that they need professional development in important areas such as classroom management and assessment. In addition, it can be said that teachers need practical information in these areas. This is consistent with the previous findings. Therefore, it can be said that teachers need professional development for classroom practices.

6. *Theme: Teachers' and administrators' views on how teachers should be evaluated*

The following questions were asked to teachers and administrators: 1) Who do you think is appropriate for the evaluation of teacher performance within the class? Why? 2) How do you find the observation of the classes by the school administrators? 3) What are your opinions about the evaluation of the teachers by an observation form? Teachers' and administrators' opinions about who should be evaluated by teachers are presented in sub-themes.

1. *Sub-theme: Evaluation by students.* A significant number of teachers ( $f=9$ ) argued that students could evaluate themselves. A teacher has found it appropriate to evaluate students who are primarily affected by their work:

*"If I do my job to whom, whom I am telling: Students. Students need to criticize, of course. Because they see me first. I don't think it's efficient for someone to do that by listening to how I teach. That's why I think the student's direct criticism will be improved more. Surveys, of course. We were doing it in college. Not a problem for me. I would like to see this: frankly, the student was there with points, for example. If I see that I'm missing in there, what do I try to do there myself? In the future or at another time, I try to improve myself, and I'm even better interested" (Banu, Teacher).*

The administrators considered the teachers' evaluation by an observation form as positive but with some reservations ( $f=3$ ). A school administrator stated that the assessment could be successful, provided that the assessment was carried out professionally:

*"I think it would be nice. However, these surveys will, in the midst of the teachers, travel around the school and be implemented. In other words, the mechanisms that will prepare these surveys should act very professionally. Very skillfully, preparations must be made in accordance with the spirit, purpose and purpose of the work in" (Osman, Administrator).*

Teachers and administrators were positive about students' evaluation of teachers. However, it is understood that administrators approach this issue from a different perspective. This may be the result of a broader view of administrators by their position. As a matter of fact, the administrators stated that the hierarchical structure in the school should not be spoiled.

2. *Sub-theme: Evaluation according to the results of the central exam.* A school administrator to evaluate the profes-

sional development of teachers stated that the YGS and LYS examinations by which students are assessed should be taken into consideration:

*"The written results of that class are not a criterion but certainly an outcome. Let's consider that, if a student's mathematics goes over 90 for over four years, and over 80, and our student is doing 2-3 questions in math's at YGS, there is definitely a mistake in one place. This is the basic criterion! Perhaps, as I said, feedback from our parents or students is not effective in the success of a teacher. The administrative convictions are not enough. The only formal criteria are the results of YGS and LYS" (Fatih, Administrator).*

The school director only advocates the evaluation of teachers according to the results of the central examinations. In the evaluation, the process may be neglected and only drawbacks may be the focus. Because the process is the result. The mistakes identified during the training process can be corrected immediately. However, if the assessment is made according to the results of the exam, the correction of the mistakes will be delayed and the students who failed in the examination may have been dismissed.

3. *Sub-theme: Multidimensional assessment.* Another school administrator argued that the success of the student was not the only criterion;

*"At the end of the school year, in the middle of the year, some such performance indicators should be developed, and the system should be evaluated first. So, we have to look at the resulting product. As a matter of fact, if the good teacher has caused the positive behaviors of the students, if the discipline of the class is instrumental to the class, the children of the class, so if the school is reflected in the academic success of teachers. Of course, we cannot evaluate everything with academic achievement or indicators related to education. We need to look very versatile. The teaching of a teacher is the classroom management, the discipline that he gives to his students, the moral values, the dialogue he has developed with them, the progress in the academic success of the children, the warm relationship that the school establishes with the environment on the occasion of the teacher" (Osman, Administrator).*

The school administrator argues that teaching cannot be evaluated merely in terms of teaching academic success and that the outcomes of education should also be evaluated. While many such assessments may be useful, they have not gained prevalence since they have difficulties in practice.

4. *Sub-theme: Evaluation by school administrators.* It can be said that school administrators are aware of the fact that course observation is already a part of their duties, but they do not consider it appropriate. A school head expressed this situation as follows:

*"This is in the regulation. We have to do it at least once a year. But so far, 10 years in the past, and this has been my work once in my teaching life. I also followed the courses of our trainee teachers for two years. In this sense, I do not find too ethical a manager to go and listen to the teacher's lesson there to draw conclusions about the teacher" (Fatih, Administrator).*

Most of the teachers ( $f=7$ ) opposed to being observed by the administrators in the classroom. A teacher described the observation as disturbing in the following words:

*"The principal has already observed me in the first year of my profession. I was very upset. I mean, even though one of my parents walked into my class and watched, it bothers me. I can't be comfortable. I can't handle the lesson as I said. Okay, let him come or watch the camera. It doesn't matter, but something won't change. Let him come, but worse than normal, we can handle more stress. I think it makes me uneasy to have a person, that's all!" (Aslı, Teacher).*

Another teacher emphasized that the observer should be more experienced than herself:

*"I don't like it. Because I ask him how many years he spent in class. How many years did you spend in class? How many times have you gone through the stages I've been through? I mean, a person needs you to be able to evaluate you. From the student's point of view, it is separate. The student understands or does not understand the course. Because criticism is something that comes from experience. Can I get up now and criticize the teacher of 20 years? I consider this to be rude" (Buket, Teacher).*

Another teacher preferred an inspector to make observations in the classroom because the principal might be biased:

*"I prefer the inspectors to come. Let them come. Because if you clash with the manager, there is a situation. But the inspector doesn't know you. He must be neutral. But if you're in conflict with the administration, I'm not saying that in the name of myself, but I'm trying to think of multidimensionally, then it doesn't evaluate you! Evaluates with prejudice. That's exactly what you do, and you'd be surprised. Because if he wants to find a fault, he will find it. The important thing is how to turn off the defect" (Sude, Teacher).*

School administrators stated that they had neglected the lesson observation because they did not find observing as right. They argued that it was unethical to observe senior teachers as a rationale. A teacher's evaluator has to be more senior than him that his opinion may be adopted by teachers. Although the teaching experience is important, the fact that the administrators did not receive training on course observation may have played a role in this finding.

Teachers stated that they do not want to be evaluated by the school administrator. They presented as the reason that administrators are not senior enough, they can act with bias and may make teachers anxious. The views of teachers and administrators are consistent with each other.

According to the opinions in this theme, it can be said that teachers and school administrators have positive attitudes

towards students' evaluation of their teachers. The fact that student assessment is a form of assessment applied in the world contributes to the validity of opinions. According to the dynamic approach, student evaluation can be used in teacher professional development.

*Findings Related to Teachers' Professional Development Level According to Students*

In this section, data collected from 832 students using teacher professional development student assessment scale are analyzed. The averages of the teachers who work in the schools where the scale is applied according to the students' perceptions of the dynamic approach are presented in Table 4.

Orientation ( $M= 3.92, sd= .92$ ), structuring ( $M= 3.78, sd= .84$ ), questioning ( $M= 4.13, sd= .78$ ), teaching modeling ( $M= 3.94, sd= .95$ ), application ( $M= 3.68, sd= .95$ ), the classroom as a learning environment ( $M= 3.87, sd= .81$ ) and assessment ( $M= 3.37, sd= .91$ ) behaviors are frequently performed. In addition, questioning behaviors are almost always done. According to the findings, it can be said that teachers are generally less than 4.20 in all factors. Therefore, it can be claimed that teachers need professional development in all factors. In addition, it can be said that the most need for development is in the sixth school.

Findings on improving teachers' classroom instruction according to students and researcher  
In this title, the data collected by teacher professional development student assessment scale and the data collected by the researcher were analyzed (first test). Then the findings of the analysis of the forms answered by the students and the researcher (final test) are given.

The findings regarding the evaluation of the teachers' professional development levels according to the factors of the dynamic approach by the students and the researcher are examined in Table 5.

**Table 4.** Evaluations of students about professional development levels of teachers

School	Orientation	Structuring	Questioning	Teaching Modelling	Application	The Classroom as a Learning Environment	Assessment
1	3.64	3.49	3.88	3.67	3.54	3.37	3.18
2	4.30	3.99	4.33	4.18	3.95	3.83	3.70
3	3.90	3.85	4.16	4.08	3.66	4.16	3.21
4	4.04	3.88	4.24	3.92	3.89	3.98	3.58
5	4.61	4.29	4.64	4.53	4.44	4.51	4.14
6	3.50	3.50	3.87	3.56	3.11	3.70	2.99
Total	3.92	3.78	4.13	3.94	3.68	3.87	3.37

**Table 5.** Initial test findings

Factors	Ayla (5th Grade)		Fahriye (6th Grade)		Zeliha (7th Grade)	
	Students (n=20)	Researcher	Students (n=20)	Researcher	Students (n=20)	Researcher
Orientation	4.30	4.21	3.61	3.51	3.76	3.78
Structuring	4.23	4.13	3.33	3.48	3.61	3.69
Questioning	3.67	3.68	3.41	3.65	3.50	3.62
Teaching Modelling	3.91	3.21	2.35	2.57	3.49	3.64
Application	4.40	4.63	3.05	3.40	3.38	3.58
The Classroom as a Learning Environment	3.19	3.26	2.85	2.23	3.09	3.48
Assessment	3.92	3.45	3.43	3.40	3.04	3.52

According to the findings, two teachers (Fahriye and Zeliha) were found to be low on all factors, while the other teacher (Ayla) was low on four factors.

After evaluating the findings related to their teaching, teachers reported their ways to meet professional development needs and developed their action plans as:

*"I will relate the necessity of subjects to everyday life by giving more concrete examples,  
I will begin by saying what we will do at the entrance of the course, paying more attention to finishing by learning what we learned at the end of the lesson,  
I'm going to try to ask my questions in plain language,  
I will encourage my students to solve more problems and encourage them to find individual solutions,  
In the classroom, I will try to get more time for individual and group work,  
I will review my class rules and look for ways to improve myself,  
I will try to give more feedback to my students"* (Ayla).

*"I will emphasize the objectives of the course more  
I will spend more time starting with the course review and summarizing the main points at the end of the lesson,  
I'm going to try to ask my questions in plain language,  
By encouraging my students to solve more problems, I will direct them to find new solutions,  
I will try to give more feedback to my students"* (Fahriye).

*"I think it is important to inform my students about the objectives of the course when coming to the next lesson,  
After the course, I will give the students a brief, concise, understandable way, especially in science.  
After learning the subjects, I should aim to get feedback from students by asking questions,  
In the course, I will help students to find different solutions,  
I'm going to make sure that homework isn't in a boring way, but for research.  
I will make the course more enjoyable and I will prevent the class from boiling.  
I will ensure that the students will not be disturbed by the evaluations and make the evaluations enjoyable"* (Zeliha).

When the professional development levels of teachers are determined after the courses have been taught according to Ayla's action plan, the findings are compared with the previous findings and presented in Table 6.

**Table 6.** First and last test findings of Ayla

Factors	Ayla (5th Grade)			
	First Test		Last Test	
	Student	Researcher	Student	Researcher
Orientation	4.30	4.21	4.33	4.26
Structuring	4.23	4.13	4.27	4.19
Questioning	3.67	3.68	4.18	4.25
Teaching Modelling	3.91	3.21	4.31	4.19
Application	4.40	4.63	4.45	4.70
The Classroom as a Learning Environment	3.19	3.26	3.85	3.77
Assessment	3.92	3.45	4.07	3.92

**Table 7.** First and last test findings of Fahriye

Factors	Fahriye (6th Grade)			
	First Test		Last Test	
	Student	Researcher	Student	Researcher
Orientation	3.61	3.51	4.01	3.96
Structuring	3.33	3.48	3.90	4.07
Questioning	3.41	3.65	3.88	3.99
Teaching Modelling	2.35	2.57	3.45	3.64
Application	3.05	3.40	3.88	4.04
The Classroom as a Learning Environment	2.85	2.23	3.66	3.51
Assessment	3.43	3.40	3.95	4.09

According to the findings, it can be said that the teachers, in general, have progressed in all factors. Dependent groups t-test revealed that there are statistically significant differences in the factors of questioning ( $t_{(19)} = 4.49, p < .001$ , Cohen's  $d = 1.00$ ) and the classroom as a learning environment ( $t_{(19)} = 6.67, p < .001$ , Cohen's  $d = 1.49$ ). The effect sizes (Cohen's  $d$ ) indicate that the two tests' means differ by one standard deviation for the questioning factor and by 1.49 standard deviation for the classroom as a learning environment factor. Since the effect sizes are above 0.80, they can be considered as large in size.

Similarly, the professional development levels of teachers are determined after the courses have been taught according to the Fahriye's action plan. The findings are compared with the previous findings and presented in Table 7.

It can be understood from the findings that progress has been made in all factors. Dependent groups t-test results indicate that orientation ( $t_{(17)} = 2.66, p < .05$ , Cohen's  $d = 0.65$ ), structuring ( $t_{(17)} = 2.76, p < .05$ , Cohen's  $d = 0.67$ ), questioning ( $t_{(17)} = 3.12, p < .05$ , Cohen's  $d = 0.76$ ), teaching modeling ( $t_{(17)} = 7.75, p < .001$ , Cohen's  $d = 1.88$ ), application ( $t_{(17)} = 3.60, p < .05$ , Cohen's  $d = 0.87$ ), the classroom as a learning environment ( $t_{(17)} = 2.85, p < .05$ , Cohen's  $d = 0.69$ ) and assessment ( $t_{(17)} = 2.47, p < .05$ , Cohen's  $d = 0.60$ ) factors differed significantly. The effect sizes (Cohen's  $d$ ) indicate that the two tests' means differ by 0.65 standard deviation for the orientation factor, by 0.67 standard deviation for the structuring factor, 0.76 standard deviation for the questioning factor, 1.88 standard deviation for the teaching modeling, 0.87 standard deviation for the application, 0.69 standard deviation for the classroom as a learning environment and by 0.60 standard deviation for the assessment factor. The effect sizes that are above 0.50 can be considered as medium and that are above 0.80 can be considered as large in size.

Finally, the professional development levels of teachers are determined after the courses have been taught according to the Zeliha's action plan. The findings are compared with the previous findings and presented in Table 8.

**Table 8.** First and last test findings of Zeliha

Factors	Zeliha (7th Grade)			
	First Test		Last Test	
	Student	Researcher	Student	Researcher
Orientation	3.76	3.78	4.12	4.18
Structuring	3.61	3.69	4.08	4.15
Questioning	3.50	3.62	4.11	4.05
Teaching Modelling	3.49	3.64	3.98	4.03
Application	3.38	3.58	3.99	3.86
The Classroom as a Learning Environment	3.09	3.48	3.78	3.96
Assessment	3.04	3.52	3.57	3.88

According to dependent groups t-test results there are statistically significant differences in the factors of application ( $t_{(20)} = 2.35, p < .05$ , Cohen's  $d = 0.54$ ), the classroom as a learning environment ( $t_{(20)} = 4.34, p < .001$ , Cohen's  $d = 1.00$ ) and assessment ( $t_{(20)} = 3.83, p < .05$ , Cohen's  $d = 0.88$ ). The effect sizes (Cohen's  $d$ ) indicate that the two tests' means differ by 0.54 standard deviation for the application, one standard deviation for the classroom as a learning environment and by 0.88 standard deviation for the assessment factor. The effect sizes that are above 0.50 can be considered as medium and that are above 0.80 can be considered as large in size.

**Conclusion and Discussion**

The results of this research are presented and discussed according to research questions.

*The results and discussion of the findings related to professional development problems according to the views of teachers and administrators*

Teachers and school administrators stated that professional development activities were not tailored to the needs. Determining teachers' participation in professional development activities based on quota rather than need may mean that teachers' needs are ignored. It is stated that professional development activities are not determined according to teacher needs in the literature (Bümen et al., 2012). In order for teachers to participate in their professional development activities and to be interested in activities, the activities should be directed towards their needs (Özan, Şener, & Polat, 2014). Activities can only attract teachers' attention and be effective if they are intended to meet teacher needs. Professional development of teachers is carried out through activities such as workshops and seminars imposed on them in western countries without considering the needs of teachers (Choy, Chen, & Bugarin, 2006; Colbert et al., 2008). Thus, activities are far from teachers' classroom practices and teachers are not interested in activities (Duffield, Wageman & Hodge, 2013). In this way, pre-determined professional development activities prevent teachers from taking steps to improve their teaching (Colbert et al., 2008; Fullan, 1995). In addition, teachers find such activities boring because they forget 90% of what they learn (Miller, 1998). If teachers are allowed to design professional development activities, teachers make efforts to improve classroom practices (Choy, Chen, & Bugarin, 2006; Gregson & Sturko, 2007; Klein & Riordan, 2009).

It was expressed during the interviews that there was no planning in the current professional development activities and only information transfer was made. It is suggested that professional development activities should be planned in advance (Balkar, 2010) and done by experts in their field (Özan, Şener, & Polat, 2014; Tonbul & Altunay, 2011). The fact that professional development activities are carried out in a way that is purely informative does not correspond to

the principles of adult education (Knowles, Holton, & Swanson, 2005).

Teachers and school administrators stated that professional development activities were not practical. Teachers want their professional development to be practical because they are in practice (Özan, Şener, & Polat, 2014; Tonbul, 2006). It is emphasized that professional development activities given to teachers are based on theory, but teachers want to learn the information that can be applied in the classroom (Gregson & Sturko, 2007).

Teachers and school administrators opposed professional development by distance learning. Distance education has some advantages and disadvantages (Gündüz & Bozkuş, 2013). It is understood from the comments that the advantages of distance education cannot be exploited, and the disadvantages cannot be minimized. In addition, the activities described in the comments can be said to be made by teleconference. It is stated that distance education is a concept that cannot be done with teleconference only (Moore, 2013). In a previous study, it was determined that very few of the teachers (6.5%) wanted to participate in professional development activities through distance education (Kaçan, 2004).

Female teachers stated that they could not devote time to professional development because of their family responsibilities. The fact that women teachers cannot find time for professional development due to their family responsibilities is criticized in the literature (İnandı et al., 2009; İnandı & Tunç, 2012; Köstek, 2007). In a study in the literature, family responsibilities may have played a role in determining that female teachers' expectations for professional development are higher than male teachers (Bozkuş, Taştan & Turhan, 2015). In a previous study which supported the findings of this study, it was determined that teachers did not give enough importance to professional development (Bozkuş & Taştan, 2016). School administrators also argue that teachers do not give importance to professional development (Turan, Yıldırım, & Aydoğdu, 2012). Teachers do not show interest in professional development because they see themselves sufficient (Karacaoğlu, 2008) and do not love their profession enough (Çam & Üstün, 2016).

Teachers stated that they had limited city facilities for their professional development. Despite the support of the Ministry, a teacher stated that he could not attend a congress. It is stated in the literature that obstacles that hinder the professional development of teachers should be removed by the Ministry of National Education (Bümen et al., 2012; Gündüz, 2010). It is known that teachers' professional development needs differ according to geographical regions (Akar, 2010). School administrators stated that professional development activities consisted of sharing information and experience within the school. It is stated that the scope of professional development cannot be so narrow (Can, 2004). In addition,



according to a study, it was determined that administrators did not encourage teachers to participate in educational activities except for seminar periods (Bozkuş, 2016). The administrators stated that they could not provide close support to the teachers because they were in the same position as the teachers. The obstacles of the peer coaching approach mentioned by the school administrators are mentioned in the literature (Bozak, Yıldırım & Demirtaş, 2011). Professional development activities for teachers should give the teacher the possibility of reflective thinking as well as his / her own development plan (Darling-Hammond & McLaughlin, 2011; NAEYC, 1993). Reflective thinking becomes important in professional development as adults understand their knowledge according to their interactions with the world (Billington, 2000; Göker & Bozkuş, 2017; Williams, 2001). Professional development activities focusing on specific teaching practices increase the level of classroom practice of teachers (Desimone et al., 2002). Teachers working in schools are prone to learn by participating in socially related activities (Jenlick & Kinnucan-Welsch, 1999). Professional development can only bring about a profound change in the teaching of teachers if they are related to classroom practices and in collaboration with other teachers (Gregson & Sturko, 2007). For this reason, the teacher should plan his own professional development to learn what he needs to learn (Billington, 2000; Gregson & Sturko, 2007). Because adults are themselves responsible for their own learning (Knowles, Holton & Swanson, 2005). Therefore, it is inevitable for teachers to learn what they need to learn and if they try to teach them, it is inevitable that such a professional development approach will fail (Gregson & Sturko, 2007). In addition, teachers' having a learner-centered professional development experience can provide their students with learning-centered learning experiences (Daley, 2003). For these reasons, an ideal professional development model should be able to provide teachers with the opportunity to receive support and feedback from their colleagues through meaningful learning experiences that they can apply in the classroom (Wadlington, 1995; Wlodkowski, 2003).

The teachers stated that the professional development activities should be oriented towards the practical problems they face. It can be said that these views of the teachers are appropriate. Because, according to the literature, professional development activities can be effective when it comes to classroom teaching and the needs of teachers (Creemers, Kyriakides, & Antoniou, 2013). These views are the principles adopted by the dynamic approach. Therefore, teacher professional development can be effective when it is done in accordance with the dynamic approach. As a matter of fact, when the dynamic approach was applied in this study, the improvement of the professional development needs determined according to the factors of the approach has been achieved.

It was determined that some teachers who participated in the study found themselves insufficient in the fields of classroom management, measurement and evaluation. The classroom management needs (Akar, Erden, Tor, & Şahin, 2010; Gültekin, Çubukçu, & Dal, 2010) and assessment-evaluation needs (Küçüktepe, 2013) of teachers are indicated in the literature. According to the teachers' perceptions in a quantitative study, it was determined that the most important qualifications that an effective teacher should have are the qualifications in the field of classroom management (Bozkuş & Taştan, 2016). In addition, it was found that the level of adherence to the principles of classroom management (Gündüz & Bozkuş, 2016) and assessment-evaluation competencies of teachers working in high schools (Çakan, 2004) were lower than those of primary and middle school teachers.

The administrator observations of the teachers in the classroom were not positively interpreted by both teachers and administrators. The participants approached positively to the evaluation of teachers by students. The evaluation of teachers by students is recommended in the literature (Kane, Kerri & Pianta, 2014; Shavelson, Webb, & Rowley, 1989). Teachers do not want to be observed in the classroom by their administrators because they may be afraid of administrators to evaluate their performance (Acheson & Gall, 2003). However, one-to-one engagement with teachers is expected to stimulate professional development (Zepeda, 2003).

Teachers have preferred to be evaluated by their students. Student assessment is a common practice in the world. In western countries such as Mexico, Slovakia, Spain, and Sweden, students evaluate their teachers (Isore, 2009). It has been determined that students can effectively evaluate their teachers in research conducted in Middle East countries such as Jordan, Lebanon, and Palestine (Awar-tani, Whitman, & Gordon, 2007).

#### *The results and discussion of the findings related to the teachers' professional development level according to the students*

It was determined that the teachers working in the schools where the teacher professional development student assessment scale was applied were not at the desired level in the dynamic approach factors. Therefore, it can be said that teachers do not teach courses according to the dynamic approach. This may be due to teachers do not receive training on the approach. It is determined experimentally that when teachers teach according to the dynamic approach, students learn more (Antoniou & Kyriakides, 2011). In this study, the teachers were evaluated more positively by the students when they teach according to the dynamic approach. For this reason, it can be said that by adopting the dynamic approach, the quality of teaching will increase, and the students will learn better.

#### *The results and discussion of the findings related to the improvement of classroom teaching of teachers according to the students and the researcher*

It was determined that two of the teachers participating in the action research were found to be below sufficient levels in all factors, while the other teacher was found to be below sufficient levels in factors other than orientation, structuring, and application factors. It was determined that the teachers could correct the needs when they implement the action plans that they prepared by reflecting on the professional development needs to be determined according to the factors of the dynamic approach.

Some difficulties were encountered during the conduct of the action research. Video recording permission could not be obtained from the Ministry of National Education. Participant teachers did not want to record their voice with the hesitation from the state of emergency. Therefore, courses could not be recorded and structured interviews with teachers could not be realized. The data from the teachers were limited to the action plans. In order to increase the data sources to ensure credibility, the researcher made observations in the classrooms of the teachers. This situation contradicts the finding that teachers do not want to be observed in the classroom. Because of these reasons, the validity committee could not be formed with different evaluators as the qualitative data could not be collected. Participants were restricted by the researcher's teaching branch. The absence of assistants to accompany the researcher prevented the professional development of teachers from other branches. Progress has been made in the professional development of teachers despite the

difficulties. However, how the progress was achieved was limited to the solutions that teachers indicated in their action plans.

Increasing the quality of teachers takes place in a few stages. First of all, the level of qualifications of teachers in the classroom is determined. Classroom teaching factors determined by the dynamic approach according to the research results specified in the literature are determined by the students with the teacher professional development student assessment scale. According to both the teachers and the administrators participating in the research and the literature, the students can effectively determine their teachers' competencies. Because there is no stakeholder who observes teachers more than students in the classroom. The scale can be answered by middle and high school students at certain times of the academic year. According to the averages of the factors determined by the dynamic approach, points can be interpreted. Thus, teachers can be motivated by the sincerity in order to meet their professional development needs by realizing their competencies.

Teachers can take measures to determine the cause of their deficiencies by adopting the dynamic approach and through reflective thinking. Theoretical knowledge may not always be practical. There may be gaps between the theory and the application. A teacher may not be able to determine what to do in the class by just looking at a theory. It may be necessary to produce the application-oriented information that is not in theory. Reflective thinking comes into play at this point. It is called reflective thinking when a person draws a conclusion from the applications and obtains new information according to that result (Dewey, 1910; Schon, 1983). Reflective thinking is important in the professional development of teachers. Because teachers do not always find solutions to problems they encounter during the application (Sergiovanni, 1989). Since professional development activities in the traditional sense are more based on theory, it should not be considered that teachers should be provided professional development only with these activities. Because it is often expressed that such activities are disconnected from practice and cannot meet the needs of teachers (Budak & Demirel, 2003; Bümen et al., 2012). Therefore, in the professional development of teachers, teachers need to be able to produce practical information with reflective thinking method where the theory is insufficient (Gustafsson & Fagerberg, 2004; Darling-Hammond & McLaughlin, 1995; Day, 1993). In this way, teachers, by evaluating themselves and produce the information they need, to be removed from the passive situation in professional development and take an active role (Maaranen, 2009; Moon, 2013; Yu-le & Li, 2015). Teachers' use of reflective thinking is a necessity of a dynamic approach.

After the action plan has been developed, the teacher should be expected to teach according to the measures he has taken in the plan and to be given enough time. In an academic year, there are two semesters, which usually last 18 weeks. Each time, every six weeks, in a total of three times during the year will be repeated six applications. In this way, adequate monitoring and evaluation can be done during the professional development of teachers. After the implementation of the action plans, the cycle turns back to the beginning and whether the development needs of the teachers are met is determined by the student responses. This cycle repeats throughout the professional life of teachers.

There may be difficulties in implementing the dynamic approach. For example, it may take time to collect and analyze data with the teacher professional development student assessment scale. This can be overcome if the scale can be answered in a computer environment. Thus, the analysis of the data is done by the computer. Educators can take students to the computer lab to provide students with answers to the

form. Similarly, if the data can be collected with tablets, students may be able to respond to the scale within the class. Another challenge is that teachers should be trained in the implementation of the approach. During the first time of the approach, teachers should be guided as in this study. In cases where one-to-one guidance is not possible, teachers can be trained in small groups. Thus, teachers may be able to apply the approach on their own.

The implementation of the dynamic approach in professional development has similar aspects to the previously developed auditing models. In the simplest form of the application, it can be said that the control loop, which consists of the steps of assessment, evaluation, and development, is more detailed. There are similarities between the observation of the teacher to improve the quality of teaching and the application of a clinical audit approach including planning and face-to-face interviews with the teacher. However, based on student assessment based on the dynamic professional development approach, the implementation differentiates it from other applications. The separation of qualified teaching into factors and the measurement of these factors through standardized data collection tools allow the evaluation to be based on objective and scientific foundations. Also, the use of reflective thinking can fill the gap between theory and practice. Therefore, it can be said that the application has its own characteristics.

The aim of the dynamic approach and the application according to this approach is to improve the teaching in the classroom. As the students are the best to know the teaching in the classroom, the student assessment is at the core. Considering that the teachers want to be evaluated by their students, student assessment is recommended in the literature and applied in the world, the practicality of this practice can be understood. Therefore, it may not make sense to evaluate the teaching of teachers by parents and administrators who are not in the classroom.

**Suggestions**

Professional development of teachers should be provided according to their needs. Students' observations should be used to determine the needs. Teachers should be sincerely motivated to realize their professional development needs and to ensure their professional development. Planning should be done in professional development activities. Professional development can be more effective if the scope of the activities is planned in advance according to the needs of the teachers. Activities should be planned not only based on theory but also teachers' answers to the problems. While teacher professional development is provided by distance learning, the use of teleconferencing which holds teachers in the passive role should be limited. Distance learning methods and techniques should be used to ensure effective participation of teachers.

Measures should be taken to ensure that family responsibilities do not prevent women teachers from taking time for professional development. Various attempts should be made to reduce the workload of women teachers, including reducing school hours. Teachers should be prevented from being indifferent to professional development. For this purpose, the importance of professional development to teachers should be understood and guided. Teachers should be told about the need for improvement and the benefits to be provided by development in order to be motivated for professional development. Teachers with professional development should be rewarded in schools, districts, and provinces.

Measures should be taken to ensure that restricted city facilities do not interfere with the professional development of teachers. Teachers who work in cities where transportation

is difficult should be provided with financial support so that they can participate in activities outside the city and their class hours should be arranged in such a way that they do not interfere with the activities. Increasing professional development activities in these cities may also be recommended. In addition, it may be a solution to the cooperation between institutions in order to contribute to teacher professional development of education faculties. For this purpose, although formal arrangements have been made to ensure that teachers participate in activities such as congresses and symposiums, in practice, the disadvantages that prevent each teacher from being allowed to participate should be overcome.

It may be advisable for school administrators to go beyond the sharing of knowledge and experience with teachers so that they can fully contribute to teacher professional development. If the school administrators are trained in the dynamic approach and the researcher's role in this research can be ensured, administrators may be able to contribute more to the professional development of teachers. Because administrators see themselves in the same position as teachers, they should not be prevented from being effective in teacher professional development. For this purpose, the duties of administrators to contribute to teacher professional development should be emphasized and the powers of administrators should be increased.

The competencies of teachers in classroom management and assessment and evaluation should be increased. It should be determined which teachers feel the need to develop in these areas and they should be encouraged to participate in professional development.

Observation of teachers by the administrators in the classroom should be limited. On the other hand, teachers should be evaluated by the students. By using the views of the students who are already observing in the classroom, external intervention in the classroom environment can be prevented and thus education is not hampered for evaluation.

In this research, since the teachers make progress in professional development when they teach according to the dynamic approach, the practice in the research should be re-applied with all branch teachers in middle and high schools. The difficulties encountered during the research should be overcome and the application should be made possible in the professional development of teachers from all branches in middle schools and high schools. In the new application, the student professional development student assessment scale may be made answerable with a tablet computer.

In-service training should be provided to the school administrators and teachers who will make the application. Training should not be based solely on theoretical knowledge transfer. It should be ensured that teachers take an active role with practical activities. If distance learning is to be applied, the teleconferencing method with one-way communication should not be used. Practical training should be organized for teachers to develop an action plan by reflective thinking. The aim of the training should be to improve the classroom teaching activities of the teacher who plays a decisive role in student achievement. School administrators should take an active role in the implementation. Administrators should take measures to eliminate the barriers of professional development that teachers face. It is advisable for administrators to guide teachers to develop an action plan.

The impact of the application on student achievement should be examined by experimental research. If the causal link, which cannot be obtained within the scope of

this study, is proved experimentally, the effectiveness of the application can be better understood. It can also be determined whether the effect to be determined varies according to the demographic characteristics of schools, branches, students and teachers. If differences are found, measures can be taken for adverse effects by investigating the causes.

The dynamic approach to pre-service teacher education should be included. The importance of the subject can be understood by adding the dynamic approach to the content of the vocational courses in the teacher training program. If the approach is introduced, teachers' facilitation of the approach can be achieved.

The Ministry of National Education should implement legislative arrangements for the implementation of the dynamic approach. Measures should be taken at the ministerial level in order to remove teachers' professional development barriers. School administrators and teachers should be encouraged to implement the approach.

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