Mayıs 2016 Cilt:24 No:3 Kastamonu Eğitim Dergisi 1453-1468

Views and Demands Of Teachers About In-Service Training Within The Scope Of Fatih Project[1]

Fatih Projesi Kapsamındaki Hizmetiçi Eğitimler Hakkında Öğretmenlerin Görüşleri ve İhtiyaçları

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Makalenin Geliş Tarihi : 19.06.2015 ***Yayına Kabul Tarihi: 14.07.2015***

Abstract

The lack of effective in-service teacher training was declared in the literature as the most frequented barrier for the integration of ICT in the schools. For that reason, it may be useful to determine the problems the teachers faced while they received the in-service training of FATİH Project. The purpose of this study was to determine the teachers' views and needs about the in-service training within the scope of the FATİH Project that aims to integrate interactive and mobile technologies into education in Turkey. Qualitative case study methodology was performed for this research. The data was collected through semi-structured interviews from fifteen teachers in a high school. Content analysis method was used while reaching the findings. The findings indicated that the teachers prefer more practice-based trainings for longer and repeated periods of time, and special trainings for teachers at different fields.

Keywords*: FATİH Project, in-service training, technology integration into education*

Özet

Okullardaki bilişim teknolojilerinin entegrasyonu için alan yazında en sık belirtilen engeller arasında hizmetiçi eğitimlerdeki sıkıntılar gösterilmektedir. Bundan dolayı FATİH Projesi kapsamında yürütülen hizmetiçi eğitimlerde öğretmenlerin karşılaştığı aksaklıkların belirlenmesi yararlı olabilir. Bu çalışmanın amacı Türkiye'deki eğitim sistemine mobil ve etkileşimli teknolojilerin entegrasyonunu amaçlayan FATİH Projesi hizmetiçi eğitimleri hakkında öğretmenlerin görüş ve ihtiyaçlarını belirlemektir. Bu çalışmada araştırma yöntemi olarak nitel durum çalışması kullanılmıştır. Veriler bir lisedeki 15 öğretmenden yarı yapılandırılmış görüşme yoluyla toplanmıştır. Bulguların elde edilmesinde içerik analizi yapılmıştır. Elde edilen bulgular öğretmenlerin daha çok uygulama ağırlıklı, daha uzun ve çeşitli zaman aralıklarında tekrarlanan, farklı branşlar için özel hizmetiçi eğitimleri tercih ettiklerini göstermektedir.

1. A part of this study was presented in the E-learn 2013 World Conference on E-Learning in Corporate Government, Healthcare, and Higher Education in Las Vegas, NV, United States, October 21-24, 2013.

***Anahtar Kelimeler**: FATİH Projesi, hizmetiçi eğitim, eğitimde teknoloji entegrasyonu*

1. Introduction

New technological developments have provided flexible, open and rich learning environments with variety of learning and teaching opportunities. Over 100 years, educational institutions tried to integrate most of the technologies such as audial records, radio, visual materials and computers. However, usage and integration of Information and Communication Technologies (ICT) in education have been congested by variety of factors (Cuban, 2001; Eteokleous, 2008). The reasons for this situation could be listed as lack of technology access, deficient skills of teachers, limited time, lack of resources, limited technical support for teachers and poor technology planning (Betts, 1998; Schifter, 2000). Most of these problems are originated from the teachers as users of ICT in the schools. Moreover, the crucial point for the usage of ICT in the schools may be teachers, because generally teachers decide the usage of ICT in their courses, even if students use them. With this viewpoint, training of teachers as users of ICT was declared as important enabler for the integration of the ICT in the educational institutions (Yıldırım, 2007; Göktaş, Yıldırım & Yıldırım, 2009). Consequently, in order to overcome at least some of the problems for successful ICT integration, teacher education plays a significant role. Especially, in-service training of teachers may solve some obstacles in diffusion process of (ICT) (Tracey, Heath & Truss, 2002).

In accordance with technological developments, Ministry of National Education (MoNE) in coordination with Ministry of Transportation has started FATİH Project (Movement of Enhancing Opportunities and Improving Technology Project) in Turkey. The aim of the project is to integrate interactive and mobile technologies into K-12 education throughout to country. According to the project coordinators, the purpose of the FATİH Project is to facilitate equal chances in education for every single student and to enhance technology in the schools for the effective usage of Smart Classroom Technologies (SCT) in the learning-teaching processes (YEGGITEK, 2014). FATİH Project has 5 main components as; completing hardware and software infrastructure, providing and managing e-content, in-service training of teachers, providing the usage of suitable technologies for instructional programs, and providing conscious, safe, manageable and measurable utilization of the technologies. For the project, 2 billion TL ($ 1.2 billions) resources have been reserved from the nation's budget. When the project ends, 620 thousand classrooms in Turkey will be equipped with Panel Type Interactive White Board (PTIWB - LCD Smartboards), Tablet PCs and High-Speed Internet infrastructure for the hardware component of the project. Also, MoNE are planning to supply the educational e-contents in accordance with updating the current teaching programs based on the instructional technology-supported education. According to MoNe, as of May 2015, approximately 200 thousands PTIWB were established at the classrooms in the schools throughout the country and almost 1.437.000 Tablet PCs were distributed to students (MoNE, 2015).

In addition to hardware component of the FATİH Project, MoNE has carried out in-service trainings for teachers as a part of the project. These in-service trainings for the usage of the SCT installed in the schools were prepared by a council consisted of acade-

micians from a few universities. It was planned that all teachers in the schools in Turkey would receive this in-service training face to face. The content of these in-service trainings consisted of basic ICT practices, usage of e-contents at suitable situation and suitable time, and providing rich learning environments for students. The teachers received the trainings in two different groups. The first group, who had basic knowledge about ICT previously, received training about the usage of smart board for one-week period. On the other hand, the second group, who has not enough knowledge and skills about ICT, received the in-service training for two weeks. In the first week, they took training about basic ICT usage, and the second week, they took the same training received by the first group.

In the process of FATİH Project, in-service training of teachers may play a critical role to compensate teachers' deficient knowledge and skills for using SCT. Because, lack of knowledge and skills of teachers about the usage of technologies were declared as main barriers to successful technology integration into educational environments (Akbaba-Altun, 2006; Pamuk et al., 2013: Uluyol, 2013). In the current study, situation of the in-service trainings were analyzed according to views of teachers participating in-service trainings of FATİH Project. That is, the purpose of this study was to determine the teachers' opinions about and needs for in-service training within the scope of FATİH Project. The research questions of the study are as following;

(a) What are the teachers' opinions about in-service training for FATİH Project?

(b) What are the teachers' in-service training expectations of MoNE within the scope of FATİH Project?

2. Method

The qualitative case study methodology was used in this study, since the researchers could have chances to understand and to explore the phenomena deeply in the qualitative studies (Creswell, 1998; Bogdan & Biklen, 2007). Qualitative approaches also give more opportunities to studying things in their natural settings (Denzin & Lincoln, 1994). In addition, using interviews as a qualitative data collection technique could give a chance to reach what participants actually thought about the subject with the aid of in-depth questions (probes) (Marshall & Rossman, 1989). Similarly, the data of the current study were collected through semi-structured interviews in order to reach what the teachers think about the in-service trainings of FATİH Project and their demands related with the same project.

Participants

The participants of the study were working in a high school in Ankara, TURKEY which was selected through purposeful sampling strategy (Patton, 1990). The school was selected purposively since it was one of the pilot schools of the FATİH Project. In this school, each class and lab has a PTIWB and high-speed Internet connection with cable. Patton (1990) stated that while selecting the participants, the purposeful sampling was useful when the researcher intentionally preferred the sample based on specific characteristics. Correspondingly, 15 teachers among 74 teachers in the case school were

selected for the interviews considering their technology usage rates, ages, genders, fields, and potential to supply useful data for the study. These teachers' course fields were varied as Math, Science, Chemistry, Biology, Literature, History, Geography, and English. The participants included 7 male and 8 female, with the average age of 42. In addition, the Computer Teacher of the case school was counted in participants of the study. Demographics information of these teachers was provided in Table 1.

Table 1. Demographics of the participants

Field of Teachers	Gender		Age Interval		
	Female	Male	20 - 35	36 - 50	51 - 65
Math (2)	0	2	1	0	1
Turkish Literature (2)	0	2	0	1	1
Physics (2)	1	1	0	1	1
Chemistry (2)	1	1	2	0	0
Biology (1)	1	0	0	0	1
English (2)	2	0	0	1	1
History (1)	1	0	0	1	0
Geography (2)	1	1	1	0	1
Computer Teacher (1)	1	0	0	1	0
Total (15)	8	7	4	5	6

Data Collection and Instruments

In qualitative studies, the researcher generally act as main instrument of the research during interviews as asking questions and interacting with the participants (Merriam, 2001). Correspondingly, the data were collected by one of the researcher through semi-structured interviews. The interview protocol included 8 questions, and they were prepared by the researchers as a result of analyzing the related literature. Three experts in the field (two faculty member at Computer Education and Instructional Technology Department and one faculty member at Education Faculty of a state university) reviewed the questions. Also, pilot test for the interview protocol was conducted with a teacher in the school. According to results of the pilot test expert views, a question was excluded from the interview protocol while two additional questions were added to the questions. The questions in the protocol were grouped under four sections as demographic information about the participants, the structure of the in-service trainings, problems and issues for the trainings, and teachers' expectations about the appropriate in-service trainings. Each interview lasted approximately 15 minutes, and they were recorded with audio recorder. All interviews were conducted face-to-face in teachers' own school settings.

Data Analysis

Generally, analytical procedures of qualitative research were listed in the literature as coding the data, generating categories, developing themes and patterns, relating these themes under categories, and writing the report (Marshall & Rossman, 1989). For the analysis of the data, firstly the researchers transcribed interviews with Express Scribe (v 5.50) and the transcriptions were converted to MS Word documents. Then, content

analysis method was used (Yildirim & Simsek, 2008). For the analysis of this study, four stages were followed namely; data coding, developing themes, organizing codes and themes, and defining and describing the findings and interpretation. This analysis was conducted through NVivo8, a qualitative data analysis software.

For the trustworthiness of the study (validation and reliability of the research), three techniques were performed by the researchers. These were 'member checking', 'peer debriefing', and 'second coder'. Firstly, transcriptions of the interviews were given to the participants in order to see if they were plausible for the member checking. The participants found nothing to change in the transcriptions of their interviews. Secondly, during the peer debriefing process, emerging results and interpretations of the study were shared with experts in the field (same individuals at instrument developing process) throughout the study if there were any problem in the process. Lastly, the researcher and a research assistant in the education faculty of a state university coded an interview of a teacher separately. Then, code lists of the researcher and second coder were compered. The inter-rater reliability formula recommended by Miles and Huberman (1994) was used and inter-rater reliability score was calculated. According to this formula, the number of consistent codes was divided into summation of number of consistent codes and number of inconsistent codes. The inter-rater reliability score for the data analysis of the teacher interview was .86 and this was sufficient (over .80 level) for the reliability of the coding according to Miles and Huberman (1994). Then, other interviews were coded by only the researcher.

3. Findings

Lack of knowledge and skills for using SCT within the scope of FATİH Project came forward as main barriers for the integration of the SCT into schools. That is, most of the teachers (N=10) in the case school indicated that teachers not having enough knowledge and skills for the SCT and they could not adequately use them in their courses. They also asserted that this lack of knowledge and skills were one of the main problems for the usage of the SCT in their schools. In addition, the Computer Teacher of the case school stated that the teachers not having experience of the PTIWB did not prefer to utilize them in their lessons. In order to eliminate this barrier, in-service trainings to teachers having deficient knowledge and skills about usage of SCT were planned and developed by the YEGITEK. The teachers in the case school had attended to these in-service training sessions designed by MoNE/YEGITEK before the SCT were established to their schools. Before the presentation of the findings regarding to the research questions, the structure and the process of the in-service trainings of the FATİH Project will be explained.

In-service Trainings of FATİH Project

Actually, the in-service trainings of FATİH Project were developed under the supervising of YEGITEK by a council which included researchers from various universities in TURKEY. According to 'Program of Events of In-service Training for FATİH Project' document (FATİH Projesi için Hizmetiçi Eğitim Etkinlik Programı), duration of the in-service training was 30 hours in 5 days. In addition, the program of the in-service

training consisted of 6 components as following; FATİH Project in education (2 hours), Installations and usage of the SCT (2 hours), Searching-finding-selecting e-contents (6 hours), Design and development of e-contents (12 hours), Planning and presenting a lesson using founded/developed e-contents (6 hours), and Evaluation of the e-contents and lesson presented by teachers (2 hours).

On the other hand, most of the teachers in the case school stated that they had attended the in-service training programs as two separated groups. While the first group attended the 5 days trainings as the in-service training program developed by the YEGITEK, second group attended to longer in-service training which took two weeks period. One of the teacher from the second group explained that they firstly were trained about the basic ICT, and then they had attended to the original program of the in-service training of YEGITEK for 5 days like first group. The Computer Teacher of the case school specified that

> "We determined level of the teachers about the ICT knowledge and skills with a survey. This survey sent us from the District Directorate of the Ministry of National Education (İlçe Milli Eğitim Müdürlüğü). According to results of this survey, approximately half of our teachers attended two weeks in-service trainings at the District Directorate of the Ministry of National Education. On the other hand, teachers having good results on the survey attended the 5 days (1-week) in-service training in our school. Both trainings were conducted by two different computer trainers from the District Directorate of the Ministry of National Education." (CT)

The schedule of the in-service trainings was in the last 15 days of June 2012 followed the end of academic year. That is, teachers attended the in-service trainings during the seminar weeks at the school and at the seminar room of the District Directorate of the Ministry of National Education. The interesting point for the timing of the in-service trainings was that the SCT had not been established to the case school until that time. The SCT were set up to the school at the beginning of the next academic year which corresponds two months later than (September, 2012) the in-service trainings.

Teachers' Opinions about In-service Trainings

In the case school, most of the teachers (N=13) asserted that in-service trainings did not eliminate their needs of knowledge and skills for using adequately the SCT in their lessons, although 2 teachers stated that the in-service trainings provided necessary knowledge and skills about these technologies to them. In addition, 10 out of 15 teachers stated that not only 1-week in-service training but also 2-week training were inadequate so that the teachers could properly use the SCT in their courses. Majority of the participants (N=13) complained about the deficiency of practice, short duration, unsuitable level, insufficient content, and inconvenient structure of the in-service trainings provided by the YEGITEK as shown in Table 2.

Table 2. Themes for the Inadequate In-Service Trainings

Themes for the Inadequate In-service Trainings	Frequency of participants mentioned
Deficiency of practice	9
Unsuitable level	8
Short duration	8
Insufficient content	6
Inconvenient structure	4

Deficiency of Practice

9 participants emphasized that the practice part of the in-service training for the SCT within the FATİH Project lasted only 1 day (6 hours) and this time interval was too short for the practice to learn how to use SCT in the lessons. A teacher also stated that

> "I can say that the in-service training programs was good at the beginning. But, we could not learn that how we might utilize these technologies in each specific subjects of our courses. That is, we learned how these technologies works generally. On the other hand, we did not see the practice usage of them in our courses." (B1)

Moreover, the Computer Teacher also stated that there was a practice part at the last day of the in-service trainings (both of the 1-week and 2-week programs) and, in this practice part, each teacher presented an e-content (which were they selected or prepared) related with a subject in their courses using the SB software on the PTIWB. However, she (CT) added that this practice implementation were insufficient for the most of the teachers in the school. One of the reasons for the deficiency in the practice part of the in-service trainings was declared by four teachers as the timing of the in-service trainings. They asserted that they did not have any chance to implement what they had learned during the in-service trainings, because the trainings were conducted just prior to the end of the academic year. A teacher explained that

> "In fact, we have learned most of the things about the usage of these technologies during the training. However, we went on summer break immediately after the training and we could not practice on the smart boards. So, we forgot what we have learned about the practice usage of the PTIWB and SB software. That is, this could be accepted as a challenge for the in-service trainings." (H1)

This warning about the timing of the in-service trainings as a problem was also mentioned by the school administrators and Computer Teacher of the case school.

Unsuitable Level

Level of the in-service trainings for the teachers was discussed by the 8 teachers participating the study. They asserted that level of the trainings was not suitable for the teachers in the case school. Especially, a teacher not having enough knowledge and skills about the SCT stated that

> "We [teachers not having enough knowledge and skills about the SCT] did not learn well the usage of the PTIWB and SB software in the trainings, because the training was difficult for us. I could not understand most of the subjects in the in-service training, because I had known a little about these technologies before. That is, they should explain us as starting the subjects from lower levels." (T2)

On the other hand, a teacher (G2) participating the 1-week in-service training expressed that level of the in-service trainings was sufficient for teachers having enough knowledge and skills. The Computer Teacher emphasized that selection of teachers for the two types of in-service trainings (1-week or 2-week trainings) was not conducted adequately and the teachers from different knowledge and skill levels might participate in the same training for that reason. She explained this situation as

> "Teachers at our school were directed to the 1-week period or 2-week periods of in-service trainings according to results of a survey conducted by the District Directorate of the Ministry of National Education in order to determine the level of the teachers about the technological knowledge and skills. Actually, this survey was not suitable for evaluating the level of the teachers about the SCT. In this survey, there were some questions about their experience for the technologies and how many technological trainings that they attended. According to results of this survey, teachers having good results participated 1-week period of training, while teachers having lower results were directed to 2-week period of in-service trainings. However, some teachers of our school had answered misleadingly the survey in order to participate shorter training in point of the periods. That is, determination of which trainings the teachers participated was allowed to teachers' own preference. For that reason, some teachers were selected to participate 1-week training, although they did not have enough basic knowledge and skills about these technologies." (CT)

Short Duration

Another negative view for the in-service trainings of FATİH Project indicated by 7 teachers was that duration of the trainings was too short. Firstly, the teachers who attended 1-week training declared that they could not benefit sufficiently during this period. In addition, some teachers participated 2-week training also stated that the duration of the training was short for them. On the other hand, the Computer Teacher declared that most of the teachers wanted to join to the 1-week training, although they said that time of the in-service trainings should be longer.

Insufficient Content

Some teachers (N=6) declared that contents of in-service trainings were not enough for them so that they could use the SCT in their lessons. For instance, a teacher mentioned about the problems for the contents of the in-service trainings as

> "Of course, we have received a training at least, but that trainings could not be sufficient for us. I can say that our trainer [of the in-service trainings] taught most of the things about the hardware part of these technologies. However, we could not learn how to use SB software or how to overcome problems on the SB software while using it during our lessons." (B1)

Inconvenient Structure

4 out of 15 teachers indicated that conducting the training only once might reduce the advantage of the trainings for them. They asserted that they had learned some knowledge about the SCT at the in-service trainings, but they could forget some of them in the process of time. A teacher (P1) also stated that they did not gain necessary skills and knowledge about the SCT, because they participated in only one session of training and this training was only at the beginning of the FATİH Project which means before the establishment of the SCT in the case school. Other two teachers (G2 and C1) specified that not providing periodic trainings throughout the academic year or a few times in a year could be accepted as a problem for the in-service trainings. In addition, a deficiency indicated by the Computer Teacher in the case school was that the YEGITEK did not provide the special in-service trainings for FATİH Project to the Computer Teachers in the schools.

Teachers' Needs for In-Service Training

Most of the teachers (N=13) in the case school mentioned various requests about the in-service training processes in order to have more knowledge and skills for using the SCT adequately in educational environments. When their demands about the in-service trainings were investigated, these demands were grouped as structure, duration, and content of the in-service trainings of FATİH Project as seen in Table 3.

Table 3. Demands about In-service Trainings of FATİH Project

Demands about in-service trainings	Frequency of participants mentioned
Structure of trainings	13
More practice-based training	8
Different level trainings	8
Separate (special) trainings for each course	4
Special trainings for computer teachers and school administrators	3
Obligatory or optional trainings	3
Duration of trainings	8
Longer training	8

Demands about in-service trainings	Frequency of participants mentioned
Continuing training (more than once)	5
Content of trainings	5

Structure of the In-service Trainings

Majority of participants (N=13) in the case school mentioned some arrangements for the structure of in-service trainings. These arrangements were listed as more practice-based training, trainings in different levels, separate trainings for each course, separate trainings for computer teachers and school administrators, and obligatory or optional trainings.

Firstly, 8 out of 15 teachers specified that they needed more practice-based trainings in order to use the PTIWB in their courses. A teacher said that *"we took 1-week training, but we should take additional 1-week training based on only practice with these technologies"* (M1). In addition, another teacher stated that

> "I think that this training should be more practice based. That is, they should show us how to use these technologies in our lessons. They could prepare small examples to show usage of them." (G2)

Secondly, although 2 different in-service trainings were conducted for teachers at different levels of knowledge and skills about the SCT, 8 teachers stated that there must be various level trainings for especially teachers not having enough knowledge and skills. In addition, 6 teachers in the case school expressed that YEGITEK should determine the deficiencies of teachers about the usage of the SCT and they should organize different in-service trainings according to this information.

Thirdly, 4 out of 15 teachers represented that special trainings should be prepared for each course separately and the teachers should participate in the trainings according to their fields. A teacher stated that

> "YEGITEK should arrange the in-service trainings on the basis of fields of the teachers. They could show what we can do in our courses. That is, Geography teachers could join the in-service training in their own group, while History teachers, Math teachers and Science teachers could learn specific usage of these technologies for their courses in their own group. For instance, they could show to History teachers that how History teachers could teach 'Conquest of Istanbul' topic with using these technologies." (G2)

Fourthly, the Computer Teacher requested in-service trainings specially developed for Computer Teachers and School Administrators. At this point, the Computer Teacher stated that she attended the 1-week in-service training with other teachers in the school and she did not learn different topics than other teachers. She also said that she could not gain enough knowledge and skills about how she could support and help other teachers in order to integrate the SCT to their courses. For that reason, she wanted particular in-service trainings for computer teachers from YEGITEK in order to take part into integration of the SCT in the schools.

Lastly, there were two different opinions among teachers in the case school about the structure of in-service trainings. While a teacher (B1) specified that in-service trainings must be mandatory for all teachers, another teacher (T1) said that in-service trainings could be optional for teachers who were volunteer to attend them. On the other hand, the Computer Teacher (CT) explained that in-service trainings should be obligatory for all teachers, because most of the teachers may not want to participate in-service trainings although they need to receive additional trainings to use adequately these technologies.

Duration of the In-service Trainings

8 teachers indicated that the duration of the in-service trainings was short for them and they wanted more training about the usage of the SCT. Hereof, not only teachers participating 1-week period in-service training, but also teachers joined to 2-week period in-service training stated that they needed longer training for using these technologies in their courses. In addition, some teachers (N=5) specified that duration of in-service training should be 1 month. 2 teachers also emphasized that teachers not having enough knowledge and skills about the technology might participate more than 1 month period in-service training.

The other point stated by the about the time of the in-service trainings was receiving the training only once. The Computer Teacher and 4 teachers expressed that in-service trainings should be provided to them continuously. They emphasized that in-service trainings should be renewed periodically according to changing conditions about the technological developments. Moreover, the Computer Teacher expressed that the in-service trainings should be updated according to changing developments at software and hardware related with the SCT installed into schools.

Lastly, a teacher specified another point as

> "We attended the in-service training before the summer break and we could not have chance to practice with the software [on the PTIWB]. For that reason, we forgot most of the subjects we had learned. YEGITEK should arrange additional trainings to us so that we will not be able to forget the usage of them and we will have chance to use these technologies shortly after the in-service trainings." (H1)

As a result, most of the participants in the case school demanded from YEGITEK/MoNE a longer and continuous in-service trainings about the usage of SCT instead of only once and just before the establishments of SCT.

Content of In-service Trainings

Although most of the teachers in the school participated in the in-service trainings prepared by YEGITEK and took lessons about the usage of SCT, 5 participants mentioned that teachers would be able to learn adequately only a few topics about the usage of SCT. Two teachers (CT and C1) specified that there should be more practice-based lessons and applications presenting the examples about the usage of software for the PTIWB in their lessons. A teacher (G2) emphasized that their trainers should tell more about the usage of the software, because they had difficulties mostly while using soft-

ware on the PTIWB. In addition, the Computer Teacher of the school said that they could learn another software in the in-service trainings instead of the software installed on the PTIWB, because this software was too difficult for most of the teachers in the case school. She also emphasized that there should be some additional applications for the teachers about how they could integrate these technologies to their courses. Furthermore, she mentioned some additional points about the e-contents for the SCT and she stated that

> "There should be subjects in the in-service trainings about not only how teachers could reach e-contents at EBA, but also how teachers could develop their own e-contents for these technologies." (CT)

Lastly, the Computer Teacher expressed that YEGITEK should receive opinions of teachers in development of the contents of in-service trainings about the usage of SCT in educational environments.

4. Discussion and Conclusion

Insufficiency of effective in-service teacher training was declared in the literature as the most frequented barrier for the integration of ICT in the schools (Schoepp, 2005; Albirini, 2006; Bingimlas, 2009). In addition, trainings of teachers in order to provide required technological knowledge and skills to teachers were suggested for integrating ICT into schools (Rogers, 2000; Franklin, 2007; Yıldırım, 2007; Eteokleous, 2008; Göktaş, Yıldırım & Yıldırım, 2009; Buabeng-Andoh-2012). In the current study, most of the teachers mentioned the lack of knowledge and skills as one of the main problems for using SCT efficiently and effectively in their courses and it was also stated that in-service training sessions within the scope of FATİH Project were not sufficient to meet teachers' needs of knowledge and skills for using SCT. These findings of the study were consisted with the results of study conducted by Pamuk et al. (2013) in which they listed some of the probable reasons of deficient knowledge and skills of teachers. So, appropriate in-service teacher training may be helpful to have teachers use ICT effectively in their lessons. For that reason, it may be useful to determine the problems the teachers faced during the in-service training of FATİH Project. According to findings of the current study, teachers' complaints and expectancies about the in-service trainings were grouped as length and time of training, suitable content of training, more practice-based training, inadequate level of the in-service training, repeated and ongoing training sessions instead of only one time session, special trainings for teachers at different fields, trainings for giving knowledge and skills to prepare e-contents, and special trainings to computer teachers and school administrators. These results are parallel with the findings reported at the Evaluation Report of Pilot Implementation of FATİH Project (2012).

Moreover, most of the teachers participated to the study demanded some additional training about how the SCT could be used especially in their curriculum. This point was also emphasized by Sandholtz and Reilly (2004) as how to use ICT with pedagogical methods, by Yıldırım (2007) as how to teach with technologies, by Buabeng-Andoh (2012) as how to apply ICT to support students' learning, and by Pamuk et al. (2013) as how to use the PTIWB in teaching. Moreover, Sandholtz & Reilly (2004) also asserted

that although required knowledge and skills for teachers about usage of the ICT was one of the main determinant of ICT integration, these were not the only conditions for effective usage of ICT in the classrooms. For the integration of ICT in teaching and learning processes, they pointed out the importance of providing knowledge and skills for pedagogical usage of ICT (teaching with ICT) instead of technical issues and providing effective technical support. In parallel to this, Cox et al. (1999) stated in their study that although teachers who attending in-service training knew how to run a computer or other devices, they did not know how to use ICT in their courses. This pedagogical aspect defined by Newhouse (2002) as developing skills in integrating ICT usage into their courses. At this point, it was stated that pedagogical support should be provided to teachers alongside the technical support in order to integrate technologies into educational environments (Yıldırım, 2007; Göktaş, Yıldırım & Yıldırım, 2009). The lacking point of the in-service teacher training programs within the scope of FATİH Project may be not covering pedagogical aspects in addition to acquiring basic ICT skills.

Mostly cited point for the adequate in-service training by teachers in this study was that in-service trainings should provide them how to teach with SCT in their courses. As mentioned above, this issue is related with pedagogical support to teachers for the integration of SCT into schools. Yıldırım (2007) also stated that *"teachers criticized in-service training programs for failing to demonstrate the new pedagogy of teaching with technology and ranked the lack of pedagogical support as one of the stern barriers"* (p.181). Moreover, in the current study, the teachers participated to in-service trainings of FATİH Project stated that they did not have enough practice chance to implement what they learned in the in-service trainings. They demanded more practice-based applications in the in-service trainings instead of regular seminar type trainings. In the study of Pamuk et al. (2013), it was also reported that in-service teacher trainings of FATİH Project were not effective as much as estimated because of the limited access to SCT during the training programs. As emphasized by Buabeng-Andoh (2012) the practice part of the in-service trainings was significant so that teachers could use SCT effectively and efficiently in the schools. In addition, YEGITEK conducted in-service trainings in the case school just before the summer break. Teachers receiving this training specified that they also could not implement what they had learned and they forgot the learned information about the usage of the SCT after the in-service trainings because of implementation time of trainings. These findings were also comparable with the findings of Yıldırım (2007) and MEOIT-PPA Report (YEGITEK, 2012). The schedule of the in-service trainings may be re-arranged to implement at more appropriate times and in longer periods so that teachers can practice what they learned during the trainings as well as during their lectures. In addition, in-service trainings may be organized continuously (a few times instead of once) according to changes in the technological developments and needs of teachers.

Most of the teachers stated that level of the in-service trainings was not suitable for them and they expressed that there should be different level of trainings for teachers having different technological backgrounds. In addition, the teachers demanded different in-service trainings for their fields and courses in order to learn special usage of SCT in their own lessons. Parallel with the present study, Yıldırım (2007) also presented that teachers did not want to participate same training programs with all teachers and

they wanted to learn usage of ICT for the subjects of their courses. In the MEOIT-PPA Report, the different trainings for different field teachers and teachers having different technological background were also reported as absent by academicians (YEGITEK, 2012). In addition, Holland (2001) and Akbaba-Altun (2006) recommended that in-service trainings should provide the exact usage of ICT according to content areas of the teachers. Furthermore, Bingimlas (2009) stated that content of in-service trainings about ICT might be updated according to new technologies and specific learning needs of teachers.

Consequently, in-service trainings are still considered as the solution of the lack of knowledge and skills of teachers for using ICT in the educational institutions (Ertmer et al., 2012; Pamuk et al., 2013). At this point, administrators of the educational institutions may take into consideration the above mentioned points in order to integrate SCT into teaching and learning processes. The qualified, more appropriate timing and duration, and including pedagogical aspect about the ICT could increase the effect of in-service trainings for efficient and effective usage of SCT in the schools. Lastly, Council of Higher Education and universities in Turkey may rearrange their teacher education programs so that pre-service teachers can have enough knowledge and skills in order to use SCT established in the schools within the scope of FATİH project.

Implications and Recommendations

By YEGITEK/MoNE, the in-service trainings for the FATİH Project may be arranged more than once and more practice-based according to needs of the teachers. The continuous in-service trainings may be prepared and these trainings may be updated according to technological developments and views of users. In addition, special trainings may be supplied to teachers based on their courses and fields. YEGITEK/MoNE should determine the needs of teachers at each field, and then should prepare in-service trainings according to these demands of the teachers. In addition, example usage of the PTIWB for some subjects of the courses may be shown to teachers in order to teach possible usage of them in their courses. Another important point for the in-service training was that YEGITEK/MoNE should organize special in-service trainings to computer teachers and school administrators so that they can take role at the successful integration of SCT in the schools.

This study may provide some detailed findings for the views and needs of teachers at a school in Turkey about the in-service trainings they participated within the scope of FATİH Project. The further research should be conducted in different locations and parts of Turkey in order to analyze and compare the issues investigated in this study. Therefore, whether the views and needs of teachers vary in different regions and different socio-economic areas may be investigated. Moreover, coordinators of FATİH Project at YEGITEK/MoNE have made changes in the implementation of the FATİH Project. So, ongoing research may be conducted in order to follow situation of the in-service trainings for FATİH Project.

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