

PAPER DETAILS

TITLE: Teachers` Experiences in Online Professional Development Environment

AUTHORS: Bahar BARAN,Kursat CAGILTAY

PAGES: 110-122

ORIGINAL PDF URL: <https://dergipark.org.tr/tr/download/article-file/156448>

Teachers' Experiences in Online Professional Development Environment

Bahar BARAN
Kursat CAGILTAY

Department of Computer Education
and Instructional Technology
Faculty of Education
Middle East Technical University
Ankara, TURKEY

ABSTRACT

This qualitative study aims to explore teachers' opinions on traditional professional development (PD) courses and their experiences from an online course. 10 teachers from a private school participated in an online professional development (PD) course. After completing the course, they evaluated their PD experience. A focus group discussion and individual interviews were performed to collect data. The teachers determined the problems in traditional PD courses and online PD courses. They generally emphasized the lack of practice in both traditional and online PD courses. Further, abundance of theoretical concepts and context independent examples are determined as other problems. They proposed that PD programs should be developed together by both academicians and expert teachers.

Keywords: Teachers; professional development; E-learning; experience.

INTRODUCTION

Since our future depends on especially teachers, their professional development (PD) is very critical. At present, in Turkey there are 600.000 teachers who serve more than 12 million students in 50.000 schools. Formal education begins with elementary education which is compulsory for 8 years. Firstly, students attend primary education for 5 years. Completing the first step of elementary education they have to attend second step for 3 years. Then, high school covers 3 years education.

Turkish teacher training politics have shown some important changes in her history. With establishment of new republic, Turkey entered a new modern term in 1923. The government invited important researchers from abroad. John Dewey, one of them, prepared 2 reports historically important in the development of modern educational system (Turan, 2000). In those years "Law of Unification of Instruction" was promulgated. So, Ministry of National Education (MNE) has been unique institution operating educational policy and administrative decisions. In 1940s, teacher training was realized by "village institutes". Then, with basic "Law for National education" (Milli eğitim temel kanunu) in 1973 teachers were educated by higher teacher schools and two year post secondary education institutes. Finally, the last major change was that teacher education has been provided by universities (Cakiroglu & Cakiroglu, 2003). Today, while pre-service teaching is given by universities, in-service training is arranged by Department of In-service Training under the MNE. Cakiroglu & Cakiroglu (2003) defined important problems of teacher training in Turkey as a) lack of teachers for the rapidly growing population, b) Irrelevancy of teacher education to the realities of Turkish schools, c) The need for a theoretical base for teacher education (p.254). Ozer (2004) stated that in 2000, there were 4292 in-service training activities attended by 213,444 teachers.

While only a small number of these teachers attended in-service training programs willingly, most of the teachers stated that they needed professional development. (p.89). Further, we can see that only a half of teachers over 600 thousand teachers could benefit from those courses in 2000 (MNE, 2004). While whether or not these activities are sufficient for teachers' life long learning or have problems can be discussable topics, it could be seen clearly that professional development programs has improved teachers' instructional skills (Borko, 2004).

However, there is some dissatisfaction from professional development programs. In sum, Gabriel (2004) reports the problems of professional development as top-down decision making, the idea that teachers need to be "fixed", lack of ownership of the professional development process and its results, the technocratic nature of professional development content, universal application of classroom practices regardless of subject, students' age, or level of cognitive development, lack of variety in the deliver modes of professional development, inaccessibility of professional development opportunities, little or no support in transferring professional development ideas to the classroom, standardized approaches to professional development that disregard the varied needs and experiences of teachers, lack of systematic evaluation of professional development, little or no acknowledgement of the learning characteristics of teachers among professional development planners (pp.2-4). Today, teachers' life long learning needs and dissatisfactions to traditional courses are taken into consideration, a training serving lots of teachers and providing time-place independency as social learning environment can be seen as future of the teacher training. Indeed, this type of training came out the concept of "online professional development" to educators.

In the light of teachers' professional development needs, a research project based on online teacher training has been designed. The research project in underway has two phases. The aim of the first phase of the project is to develop an online learning module for teachers' professional development, while the aim of the second phase is to provide practice sharing mechanisms among teachers by interactive communication tools in an online environment.

This study focuses on teachers' experiences on the first phase. Designed online learning module fits Clark and Mayer's first type "Receptive: information acqusion" (p.28). That is, it provides information to teachers. It is expected that the results of the first phase will light the way of other teachers' PD projects because the lessons learned from the first part will present informative findings for the following stages.

The purpose of the study is to report teachers' opinions on traditional PD courses in general and explore their experiences in an online PD course and compare them. To achieve this aim, we discussed the teachers' prior PD experiences, comparison with traditional and online learning experiences, their evaluation of the online learning module and finally their expectations from online courses. So, the research has 3 main research questions. These are;

- What are in-service teachers' past experiences on professional development?
- What are in-service teachers' experiences in an online professional development environment?
- What do the teachers think about online PD?

METHODOLOGY

In this study, mainly a qualitative research methodology as a scientific research method was used to be able to make an in-depth analysis of ideas and experiences of teachers related to their professional development. Therefore, it is aimed to present

whole picture of the environment in terms of the research questions. The study shows five characteristics of qualitative research as naturalistic, descriptive data, concern with process, inductive, and meaning (Bogdan & Biglen, 1998).

The school and the teachers were selected intentionally by the researchers. The researchers preferred to conduct the study in a private school because of technology limitations in other public schools. It was assumed that if teachers have easy access to computers in their schools, there couldn't be any problem to access the PD module. The school has computers in both its laboratories and lounges of each teaching units. Then, 10 teachers having different teaching disciplines from the school were selected. Main characteristics of the teachers are described in Table 1 with fake nicknames.

Table: 1
Participants' teaching backgrounds

Teachers	Teaching experience	Teaching in private school	Teaching field	Teaching grade	Teaching hours a week
Nalan	13 years	11 years	English language	6 and 7	23
Pelin	5 years	5 years	Science	6-8	23
Melisa	17 years	15 years	Psychological counseling	1-8	30
Zerrin	38 years	13 years	Turkish language	6	10
Cem	3 years	2 years	Mathematics	6-8	20
Sevim	4 months	4 months	Biology	9 and 10	17
Meltem	12 years	10 years	Computer	4-8	10
Nur	12 years	12 years	Social science	7 and 8	15
Onur	2 years	2 years	Computer	1-8	21
Ilker	1 year	1 year	Computer	1-8	20

3 of them are males while 7 teachers are females. The most experienced teacher is Zerrin (38 years) and the most novel teacher is Sevim (4 months).

Statistical description of the participants' teaching experience are $\bar{X} = 10.33$ years, Median= 8.5 years and Mode= 12 years. The teachers have different teaching areas,

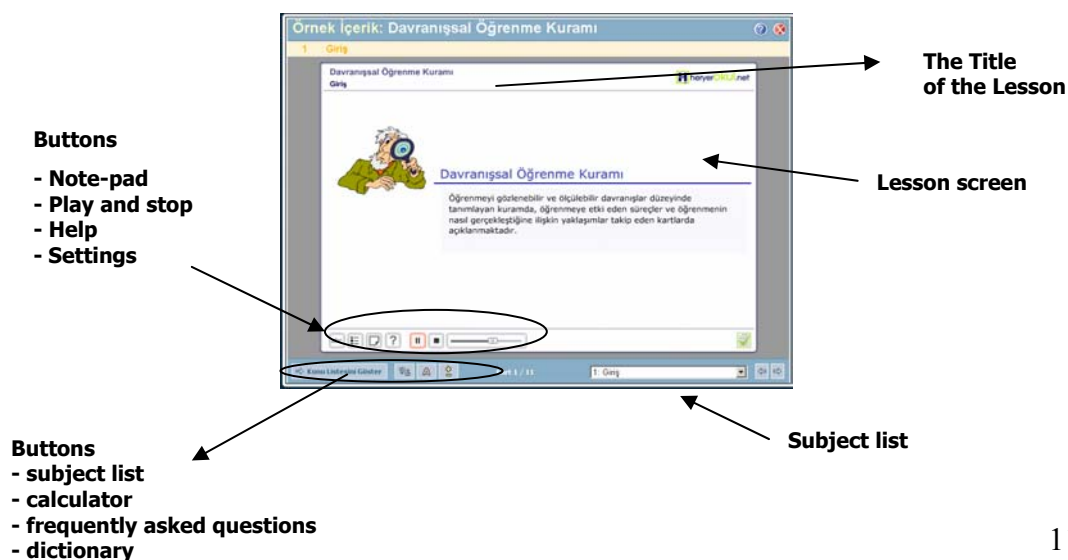


Figure: 1
User interface of the online module

English, Science, Counseling, Turkish, Mathematics, Biology, Social sciences, and Computer Education. Almost all teach from first grade to eight grades (Table: 1). The teachers first took a seminar about what online learning is and how they can use the PD module. Later on, they participated in this online course for a month.

The online PD module was developed by an educational software company. The topic of the module was about learning theories. The module content was prepared by a professor from the Department of Educational Sciences. The learning module has voice, pictures, and animations to support the content. User interface of the module is presented in the Figure: 1.

Data collection and analysis

Experiences of the teachers were evaluated by focus group and individual interviews since interviewing provides in-dept information, its reply rate is high, make apparent some behaviors not being seen and it is comprehensive. (Yildirim & Simsek, 2004).

A focus group interview was conducted to create a discussion environment about the PD module. Group meeting was arranged after teachers finished the daily teaching mission. Further, a semi-structured individual interview was conducted with each teacher. Two types interviews were hold through face-to face meetings. First, the researchers prepared an interview schedule and this schedule served as a way to get information about how teachers evaluate their past professional development experiences, how teachers evaluate their online experiences. The questions were open-ended. The researcher tried to avoid leading the respondent to confirm the researcher's assumption. However, some probes presented to get detailed answers.

Data analysis process had a bottom-up procedure. After interviews were transcribed, the data were coded. During this process, general themes were found and organized. Finally, the data were analyzed according to these general themes.

FINDINGS

3 main themes with sub theme were emerged from the interviews. These are professional development, online PD and suggestions for online PD. Professional development part explores the teachers' past experiences related to conventional PD and their determined problems in such programs. Second theme, online PD, focuses on the teachers' online PD experiences. The last theme, suggestions to online learning, investigate the teachers' proposals related to whether or not online learning is beneficial for the other teachers.

Professional Development

In this part of the article, we present teachers' professional development backgrounds, their expectations from professional development programs and problems they faced with teacher training courses.

Background

The teachers have different professional development experiences. According to their PD backgrounds, their experiences can be classified into three sub-categories. These are 1) experiences from courses arranged by the Ministry of National Education, 2) experiences from courses offered by the school and 3) experiences from individual efforts.

Except for Cem, the other teachers haven't participated in any courses arranged by the Ministry of Education. Cem mentioned his experience as "... Duration of the course was 3 months. It bothered me. You have to go there on Saturdays for only 1 hour lesson. Only theories on the books were presented". That is, it can be seen that the teacher had a negative attitude to PD courses offered by the Ministry.

3 of other 9 teachers, Nalan, Nur and Onur, have participated in courses arranged by the school board. These teachers were completely satisfied by participating in-service courses. For example, Nalan explained her experiences as "sometimes, a famous psychologist come to our school to give seminars. His examples were directly from our daily lives. Therefore, we are generally happy with his seminars. Similar to this example, what we can do in practice is important. The teacher pointed out the importance of field dependent and real life examples in teacher education.

Although the other 6 teachers have not participated in any PD courses, they mentioned some special cases affecting their teaching expertise. For example, Zerrin, an experienced teacher, explained how she got her professional experience as "In old times, there was no in-service training for teachers. Although, there were some PD courses in the last decade, I had already gotten my teaching expertise before that date. Indeed, my experience comes from my peers working with me in the same schools. We were talking about classroom events, teaching strategies, etc. Old days were better". This teacher is having long teaching experience draw attention to the point that teacher education is especially important for novel teachers. After a teacher obtains his field expertise he may not need any professional development. Further, another interesting point in her comments is that she believes that communication among teachers affect their professional development. Zerrin clearly elucidated how she directs novel teachers, based on her past experience. "...I discuss important points of the course with young teachers before they go to the class. I mention them what and how we should teach students. Indeed, this is based on my experiences. Sometimes, novel teachers may ignore them. That is, I still use my old experiences." This shows interaction patterns among expert teachers and novel teachers in school settings. As a result of such interactions tacit knowledge becomes explicit and shared with the community of teachers. Another interesting opinion came from Pelin. She explained her ideas as "I couldn't get any PD courses but I am a PhD student. I have learned necessary information from my PhD program. Therefore, I don't need any in-service course". She matched professional development courses with PhD courses as she thought that content of the training was the same. So, it is clear that teachers don't like redundant information. If they feel comfortable with the topic, they do not like to attend PD courses. Forcing them to attend may make more harm than benefit

Problems and Expectations

This part of the article presents combination of two main topics which teachers emphasized in focus group meeting; 1) problems and 2) what teachers expect from professional development programs.

During the discussions, teachers pointed out main problems in professional development programs such as unattractive topics, familiarized topic, forcing to participate in courses, academicians not having any school experience, and the absence of the practical knowledge.

For Nalan, course topics weren't attractive. She had got courses that she knew before and she was forced to be involved in courses. Although she hasn't participated in any training arranged by Ministry, Nur doesn't believe effectiveness of courses given by the Ministry of Education and she criticized them as the courses presented in rote information format. Zerrin mentioned about inefficiencies of seminars as "... tutors who do not know about children. They can be expert in their field but they are far from students. Teaching to students is a different thing from writings in the books."

Pelin drew attention to the need of expert teachers as instructors in PD courses and said "I think that academicians do not have any real life knowledge. They only know about theory. Therefore, PD courses should be given together by both academicians and expert teachers". Teachers also discussed about which courses should be included into PD programs.

They agreed on the "lack of practice" in professional development courses. Learning from other teachers' experiences is very important for them. Nalan explained her opinion as "... To learn others' class applications are very important for me, I learned the theory in my undergraduate education. Today, what we can do in the practice is valuable for teachers. It is more useful to get and learn others' experiences that have constructed during their teaching life..." Sevim also explained her expectations from professional development courses by stressing importance of the practice, "If I participate in a PD course, I expect to get practical knowledge. I don't want to get any theory. Teachers generally meet with theory in their undergraduate classes and after graduation they need to learn classroom applications. For instance, I teach my course topics in my own way.

But, I also want to know how others implement the same topic". Nur described importance of practical knowledge related to her teaching field history "...Practice is very important for us. Social sciences seem not to be suitable to apply different teaching strategies by teachers. Only read and talk. Indeed, it is not true. For example, role playing is a successful strategy to teach history. At that point, I want to learn how other teachers use role playing in history classes".

During the discussions the most frequently repeated issue was the lack of practice in PD courses. As stated before, tacit knowledge about best teaching approaches and strategies need to be made explicit. Therefore, educators need to take into consideration the necessity of including practical knowledge into a PD program.

Teachers also described their expectations from professional development courses. According to them, courses should be enjoyable and include daily life experiences and other teachers' ideas. Indeed, they wanted to participate to courses in which they actively involved. They preferred to participate in a course with their peers teaching the same topic. Nur said, "PD courses need to be related directly with my field "history". However, I can not obtain this opportunity because the school generally offers courses having general themes".

Finally, teachers discussed topics of courses in which they prefer to participate. Teachers came to an agreement on courses including practical knowledge. Pelin said that she didn't need to attend a PD course. However, if a course is given, she wanted a material development course.

Nur explained her ideas as "it can be classroom management but it can be a different topic. The most important thing influencing my preferences is that the knowledge which I will get can be applied in a real classroom. Especially, practice and relationship with my field is important issues. It can be material development or drama."

It can be seen from these sentences that teachers determine their needs as different materials with variable teaching methodologies in their own fields.

Online Professional Development

This part of the article includes information related to the teachers' evaluation of their own experiences and their suggestions for online PD environments.

Online learning experiences

The teachers introduced with the concept of online PD in a face to face meeting which had been arranged before they were experienced with learning module. Aim of this meeting was to inform teachers about online PD.

After finishing the online PD module, the teachers had different experiences with it. The most frequently discussed topic was the content of the module.

Nur said “the content of the learning module is completely wrong. If you insist on discussing this module on learning theories, I can not accept to get involved in an online learning course after this case.

Although the learning module can be well designed and well organized, as the topic of the module was not selected appropriately, online learning seems boring and incomprehensible”. Pelin explained that she have already known learning theories. She took related courses during her undergraduate education. That is, the PD module couldn’t make any contribution to her. That is, the teachers weren’t satisfied the content of the module.

Further, Nur wasn’t satisfied with it either. She said, “I do want to learn the content of the module. However, I could not understand jargons. There are too many jargons.” More specifically, another critique is toward the concepts in module. Teachers wanted to see more widespread use of the concepts. For example, the concept of “collaboration” has 2 different translations in Turkish.

The teachers couldn’t understand the meaning of one of them. At that point, the teacher draws attention to the use of common terminology between teachers and academicians. Widely accepted and plain language terms should be selected in the design of an online environment.

On the other hand, some teachers made positive comments about the online learning module. According to Nalan, online PD module provides time and location flexibility for her. Further, she admitted that she learned the name of teaching method she have, from the course module. “I learned from the learning module that I already have a teaching approach and it has a specific name in the literature of my teaching approach. That is, certainly I am a humanistic teacher. All of them are appropriate for me. I found out my self in the course”. Cem said “I liked it much. I came to the school to access it on Saturday. I spent extra time and effort to learn. I got a cup of coffee and sat in front of the computer. It was joyful for me.” These teachers were satisfied with the learning module. According to discussions, the most important point satisfying teachers from this online PD was that they could find a part related to their teaching life in the PD module. Feelings of being belonging or pertaining motivated them to participate more enthusiastically in it.

Teachers also made some negative criticisms about the online learning module. Most of the teachers can not remember any animation or picture placed in learning environment. One of the teachers, Melisa explained the reason of this problem as “my field composes learning theories.

Therefore, I understand my peers’ problem to learn that topic. The biggest problem related to learning theories is that teachers couldn’t make it concrete. When you teach description of learning or description of classical conditioning, they can not make them concrete.

You should give them more specific examples. For instance, you can give a picture depicting bell with running children to their class instead of a lemon picture for classical conditioning” (Figure: 2). That is, the teachers especially emphasized the importance of context depended examples. In teachers’ professional development environment designers should provide examples from school context to be able to make information more concrete.

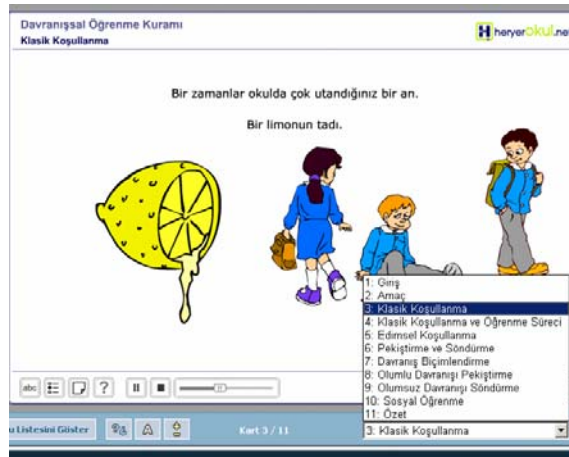


Figure: 2
A screen-shot from classical conditioning

Teachers also had some technical problems. Internet Explorer pop-up blocker warning was new for them. They couldn't solve it. Therefore, they preferred to call computer teachers. Most of them overcame the problem by the help of computer teachers.

Suggestions for online PD

During discussions, teachers also discussed whether or not they want to participate in other online courses and suggest them to other teachers. Their expectations from online PD matched generally with the expectations from face to face PD courses as explained above.

General belief of the teachers was that they want to participate in another online learning course only if the topic and aim of the course are different. Ilker explained his ideas as, "In my opinion, the content is important. If the content satisfies teachers, online learning can be efficient.

Generally, I benefit from Internet to prepare my courses. In digital environments, you can communicate by computers. Therefore, online PD can be supported by face to face session. However, only if online PD provides me opportunity of communication with my peers, I can prefer it". A similar comment came from Nur, "I like eye-contact. Human communication is important. If an online environment has this attribute, I may prefer online learning". Sevim said "...online PD can contribute my teaching. I have a lot of classroom management course books. Suppose that I have a problem in my school. I used a book to look for a solution. However, if I can get support on the Internet, I would prefer it". Some of the teachers proposed courses presenting practical knowledge. Pelin stated definitely that she didn't want to get a course having theoretical base.

She needs practical application of these theories. She explained her ideas as, "I believe that teachers are not interested in reading about constructivism. They have no time for this. When I am connected to the Internet, I am looking for figures or questions classified according to topics. Indeed, I want to get information on whether or not this figure is appropriate for my lesson. "The most important thing is whether or not these figures develop students' thinking skills". It can be seen from these comments that teachers look for more practical information.

If PD program provides some theory, it has to be supported with its real life implementation. Since the online environment is resource rich platform, they made

positive comments and it's stated that they may prefer online PD as long as it helps them keep their expectations.

In sum these expectations are interactivity, practical knowledge, and solutions to their daily life problem.

The teachers also proposed that online PD programs should match with teachers' fields and the courses include new approaches, novel things, projects, presentations, films, pictures.

Finally, they suggested that online courses should be prepared via the collaboration of academicians and expert teachers. Nalan proposed that online courses should have both theoretical and practical knowledge. She emphasized that they need both of them, "I want to learn interesting topics including practice. For example, courses on differences of teaching methods in Turkey and other countries, philosophy of new methods and their advantages and benefits".

Further, Nalan believes that she, as an English language teacher, has more chance to access materials than other teachers since she has been using learning theories for a long time. According to her, English teachers have sufficient experience to apply these theories into their classroom. However, for example, other teachers in different fields have not applied multiple intelligence theory, yet.

Another topic discussed with the teachers was whether or not other teachers want to use online learning. Zerrin underlined the reason of the teachers' hesitation as "Innovations are not accepted, suddenly. Internet is also a new thing for teachers. Therefore, old teachers do not accept it voluntarily.

However, I see young teachers of my school who are very enthusiastic about online learning". Other teachers agreed the necessity of online learning courses for teachers when they discussed the geographic wideness of Turkey. Pelin said "we can access all materials or books when they are necessary. However, most of the Turkish teachers can not obtain these sources when they needed. I believe that online PD services will be effective for them."

However, the teachers stressed that there can be some limitations for Turkish teachers to prefer such courses. These limitations are unfamiliarity with computers, lack of effective computer use, computer anxiety, lack of computers, and lack of Internet access in schools. Nalan commented on this as "...most of the teachers are not comfortable with computers, so these people who can not use computers efficiently have computer anxiety. That is, they can be afraid of using or even turning on computers. They will have a lot of questions such as whether or not the computer is crashed and broke down". Pelin added "I don't know whether or not they have the Internet in their schools". Onur stated that we should educate teachers on computer use before providing the online professional development courses.

In addition to negative opinions, the teachers also mentioned some positive contributions of online learning to Turkish teachers. Firstly, the online course will help teachers who are located far from cities. Online environments make it easier to access the materials and save time. Finally, they said that online PD would be more comfortable and convenient for teachers.

DISCUSSION and CONCLUSION

In the study, mainly, we tried to present traditional and online experiences from professional development courses. General issues emerged are;

- The teachers determined main problems in traditional professional development programs as unattractive and less familiar topics, forcing to participate in PD programs, courses given by academicians who do not have any school experience, and the absence of practical knowledge.
- Related to traditional PD program, teachers determined their needs as practical knowledge and different materials with various teaching methodologies in their own fields. Similar to expectation from traditional PD courses, for online courses the teachers emphasized the importance of practical knowledge. Therefore, we may conclude that the type of learning environment, online or face to face, is designed for teacher is not important. The most valuable thing is that in-service teachers should be satisfied with practical knowledge. It can be seen this conclusion from their course topic preferences. They preferred material development and classroom management course than theoretical based courses. Schaler and Fusco (2003) also emphasized importance of practical knowledge with this words, "Teachers professional development is more than a series of training workshops, instates, meetings, and in-service days. It is a process of learning how to put knowledge into practice through engagement in practice within a community of practitioners" (p.205).
- The teachers emphasized the most important advantage of the online learning module as time and setting flexibility. That is, teachers focused on universal advantage of e-learning.
- The teachers determined main problems with online learning module as the content of the module, concepts in module and context independent examples. Therefore, we suggest that the course content should be more practical than theory base, widespread use of the concepts should be selected and it should be avoided lots of concept.
- The teachers said to prefer online learning in case their expectations is provided. Their expectations are interactivity, practical knowledge, and solutions to their daily life problem. The teachers also proposed that online courses should be classified according to teachers' fields and the courses should include daily life experience, other teachers' ideas, new approaches, novel things, projects, presentations, films, and pictures.
- They suggested that online courses should be prepared via the collaboration of academicians and expert teachers.
- They have some hesitations whether or not teachers in different locations of the country can access and use computers. The teachers also mentioned some positive contributions of online learning to Turkish teachers. Online PD may help teachers who have location problem, make it easier to access the materials, save time and be more comfortable and convenient for teachers.
- Teachers face with some technical problems. Therefore, to overcome technical problems there should be a technical assistant in the school so that teachers can solve technical problems easily.

The study is a small scale research. Therefore, a large scale study should be planned to make generalization for all teachers.

Although small sample size is a limitation to make generalization, it is hoped that the findings of this study make important contribution to other researchers who are planning an Internet base PD environments for teachers.

BIODATA and CONTACT ADDRESSES of AUTHORS



Bahar BARAN is a Ph.D. student in the Department of Computer Education and Instructional Technologies, Middle East Technical University, Turkey.

Her research interests include topics in professional development, communities of practice, e-learning and technology in education. Correspondence for questions should be sent to e-mail: boztekin@metu.edu.tr

Bahar BARAN

Address: Z-13 Department of Computer Education and Instructional Technology,
Faculty of Education Middle East Technical University, 06531 Ankara, Turkey.

Phone: +90 312 210 36 73

Fax: +90 312 210 79 86

Email: boztekin@metu.edu.tr



Kursat CAGILTAY is Associate Professor in the Department of Instructional Technology at the Middle East Technical University, Ankara, Turkey. He holds a double Ph.D. in Cognitive Science and Instructional Systems Technology from Indiana University, USA. His research focuses on human performance technologies, human-computer interaction, electronic games and socio-cultural aspects of technology.

Kursat Cagiltay

Address: Z-12 Department of Computer Education and Instructional Technology,
Faculty of Education Middle East Technical University, 06531 Ankara, Turkey.

Phone: +90 312 210 36 83

Fax: +90 312 210 79 86

Email: kursat@metu.edu.tr

REFERENCES

BOGDAN, R. C. & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods*. Allyn and Bacon, Boston.

BORKO, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), pp.3-18.

CAKIROGLU, E. & Cakiroglu, J. (2003). Reflections on teacher education in Turkey. *European Journal of Teacher Education*. 26(2), pp. 253-264.

GABRIEL, D. M. (2004). *Teacher-Centered Professional Development Association for Supervision & Curriculum Development*. Association for Supervision, VA, USA.

MEB, (2004). Department of in-service education. Retrieved June 11, 2005, from <http://hedb.meb.gov.tr>

MOLEND, M. & Sullivan, M. (2003). Issues and trends in instructional technology. In Robert Branch (Ed.) *Educational Media and Technology Yearbook 2003*. Englewood, CO: Libraries Unlimited.

OZER, A. (2004). In-service training of teachers in Turkey at beginning of the 2000s. *Journal of In-service Education*, 30(1), pp.89-100.

SCHALER, M. S. & Fusco, J. (2003). Teacher professional development, technology, and communities of practice: are we putting the cart before the horse. *Information Society*, 19, pp. 203-220.

TURAN, S. (2000). John Dewey's report of 1924 and his recommendations on the Turkish educational system revisited. *History of Education*, 29(6). pp. 543-555.

YILDIRIM, A. & Simsek, H. (2000). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative Research Methods in Social Science]* (2nd ed). Ankara: Seckin Yayınevi.